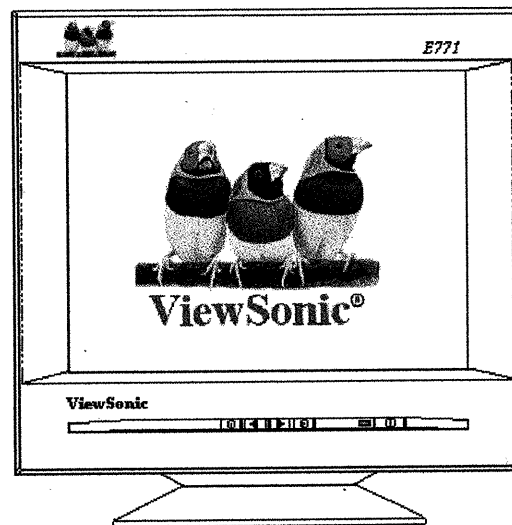


# Service Manual

**ViewSonic E771-4**  
**Model No. VCDTS21532-4/-E**

***17" Digital Controlled Color Monitor***  
***E<sup>2</sup> Series***



(Rev. 1 – August 1999)

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## Revision History

<b>Revision</b>	<b>Date</b>	<b>Description Of Changes</b>	<b>Approval</b>
1.0	8/6/99	Initial Issue	T. Sears

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## **WARNING**

This service information is designed for experienced repair technicians only and is not designed for use by the general public.

It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.

Products powered by electricity should be serviced or repaired only by experienced professional technicians.

Any attempt to service or repair the product or products dealt within this service information by anyone else could result in serious injury or death.

## 1 Precautions

Follow these safety and servicing precautions to prevent damage and to protect against potential hazards such as electrical shock and X-rays.

### 1-1 Safety Precautions

#### 1-1-1 Warnings

1. For safety purpose, do not attempt to modify the circuit board, and always disconnect the AC power before performing servicing on the monitor.
2. Operation of the monitor outside its cabinet or with the cover removed involves the risk of shock hazard. Repair work on the monitor should only be attempted by service personnel who are thoroughly familiar with all necessary safety precautions and procedures for working on high voltage equipment.
3. Do not lift the CRT by the neck. After completely discharging the high voltage anode, handle the CRT only when wearing shatterproof goggles. Try to keep the CRT away from the body during handling.
4. High voltage should always be kept at the rated value, no higher. Only when high voltage is excessive are X-rays capable of penetrating the shell of the CRT. Operation at high voltages may also cause failure of the CRT or high voltage circuitry.
5. The CRT is especially constructed to limit X-ray emission to 0.5mR/HR at 300 microamperes anode current. To ensure continued X-ray protection, replace the CRT with only the same or equivalent type as the original, and adjust the anode's voltage to the designated maximum rating, never to exceed.

#### 1-1-2 Safety Checks

Before returning the monitor to the user, perform the following safety checks:

1. Inspect to make certain that each lead dress is not pinched or that hardware is not lodged between the chassis and other metal parts in the monitor.
2. Inspect all protective devices such as

nonmetallic control knobs, insulating materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacitor networks, mechanical insulators, etc.

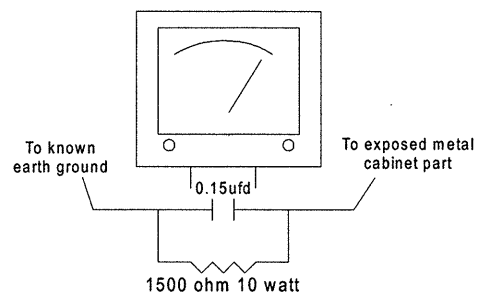
#### 3. AC Leakage Current Check

Always perform the AC Leakage Current Check on the exposed metal parts, including metal cabinets, screwheads and control shafts, as follows:

- a) Plug the AC line cord directly into a rated AC outlet. Do not use an isolation transformer during the check.
- b) Use an AC voltmeter with at least 5000 ohms per volt sensitivity as follows:

Connect a 1500 ohms, 10 watt resistor paralleled by a 0.15uF AC capacitor in series with all exposed metal cabinet parts and a known earth ground, such as electrical conduct or electrical ground connected to earth ground, as shown in the Figure 1-1. Measure the AC voltage across the combination of resistor and capacitor.

Figure 1-1. Set Up For AC Leakage Current Check



- c) Reverse the AC plug at the AC outlet and repeat the steps for AC voltage measurements for each exposed metal part.
- d) Voltage reading must not exceed 0.3 volts RMS, equivalent to 0.2 milliampere AC. Any value exceeding this limit will constitute a potential shock hazard and must be corrected immediately.

### 1-1-3 Product Safety Notices

Many electrical and mechanical parts in this chassis have special safety-related characteristics which are often not evident from visual inspection, the protection afforded by them may not be obtained by replacing them with components rated for higher voltage, wattage, etc. Before replacing any of these components, consult the Recommended Spare Parts List given at the end of this manual. Any of the replacements that do not provide the same safety characteristics may result in shock, fire, X-ray emission or other hazards.

### 1-2 Servicing Precautions

**Warning:** An electrolytic capacitor installed with the wrong polarity might explode.

**Caution:** Before performing servicing covered by this service manual, read and follow the Safety Precautions section of this manual.

**Note:** If unforeseen conflict between the following servicing precautions and any of the safety precautions, always follow the safety precautions

1. Follow closely the servicing precautions printed on the monitor cabinet and chassis.
2. Always unplug the AC power cord from the AC power source before removing or installing any component or assembly, disconnecting PCB plugs or connectors and connecting a test component in parallel with a capacitor.
3. When replacing parts or circuit boards, clamp the lead wires around the component before soldering.
4. When replacing a high wattage resistor (>0.5W metal oxide film resistor) in the circuit board, keep the resistor about 1 cm (1/2 inch) away from the circuit board.
5. Keep wires away from the high voltage or high temperature components.
6. Keep wires in their original positions so as to minimize interference.
7. Always connect a test instrument's ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument's ground lead last.

After putting the rear cover back and make sure the monitor is working properly, the Hi-Pot & Ground Continuity tests **MUST BE** performed before the monitor is returned to user.

### 1-3 Hi-Pot Test

#### 1. Test Equipment

Puncture test model PM5530 ADT or KIKUSU TOS-8750 voltage tester or equivalent approved equipment.

Note : The test equipment must be calibrated in regular period.

#### 2. Test Setup

- a) Apply voltage : DC 2100 VDC
- b) Test duration : 3 seconds
- c) Cutoff current should be set to 3 mA

#### 3. Test Procedure

- a) Unplug power cord from AC source.
- b) Put the power switch of the monitor in the "ON" position.
- c) Leave signal cable un-connected.

- d) Plug monitor power cord to the Hi Pot tester terminals.
- e) Turn on tester and watch the indicator or beeper.
- f) If the indicator lamp lightens, or beeper beeps, the test fails.

## 1-4 Ground Continuity Test

### 1. Test Equipment

AC low ohm tester TOS-6100 or equivalent approved equipment.

Note : The test equipment must be calibrated in regular period.

### 2. Test Setup

- a) Test duration : 3 seconds
- b) Set current limit at 25 A
- c) The grounding resistance must be less than 0.1 ohm.

### 3. Test Procedure

- a) Plug the monitor power cord to the tester terminals.
- b) Make sure all connections are well-contacted.
- c) Turn on monitor power and tester power.
- d) Press "Test" button.
- e) If green light shows up, means test OK.  
If red light shows up, means test fails.
- f) If the Tester has a digital display, the resistance value must not exceed 0.1 ohm.

Note : Be sure not to touch the metal portion of the signal cable head during testing.

**2-2 Signal Cable Pin Connections**

Table 2-1. Signal Cable Pin Assignments

Pin	Signal	Pin	Signal
1	Red video	9**	PC
2	Green video	10	Digital Ground
3	Blue video	11	Ground
4	Ground	12	SDA
5*	NC	13	H-Sync
6	Red ground	14	V-Sync/VCL
7	Green ground	15	SCL
8	Blue ground		

**Note:** \* This pin is used for selftest detection. Connect this pin to ground at the PC end.

\*\* For PC99 : this pin will provide +5V from PC side.



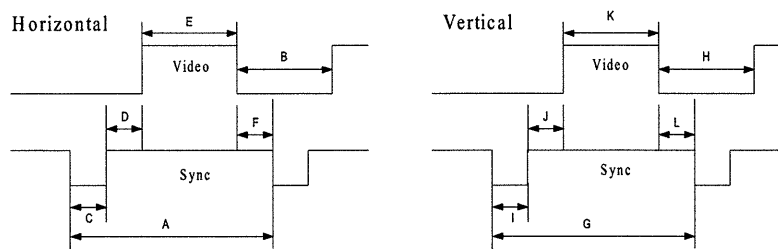
## 2-3 Timing Chart

This section describes the timings that the computer industry recognizes as standard for computer-generated video signals.

Table 2-2. Timing Chart

Mode	1	2	3	4	5	6	7	8	9	10	11	12
<b>H. Dots</b>	640	640	640	640	640	800	832	1024	800	1024	1280	1024
<b>V. Lines</b>	480	480	400	480	480	600	624	768	600	768	1024	768
<b>H-freq (kHz)</b>	31.469	35	31.468	37.5	43.269	46.875	49.725	48.363	53.674	68.677	64.34	60.023
<b>Sync Polarity</b>	-	-	-	-	-	+	-	-	+	+	+	+
<b>A period us</b>	31.778	28.571	31.778	26.667	23.111	21.333	20.111	20.667	18.631	14.561	15.55	16.66
<b>B Blking us</b>	6.356	7.407	6.356	6.349	5.333	5.172	5.586	4.923	4.409	3.725	3.589	3.657
<b>C Sync us</b>	3.813	2.116	3.813	2.032	1.556	1.616	1.117	2.092	1.138	1.016	0.972	1.219
<b>D B.P. us</b>	1.907	3.175	1.907	3.81	2.222	3.232	3.91	2.462	2.702	2.201	2.248	2.235
<b>E Active us</b>	25.422	21.164	25.423	20.317	17.778	16.162	14.324	15.754	14.222	10.836	11.96	13.003
<b>F F.P. us</b>	0.318	2.116	0.626	0.508	1.556	0.323	0.559	0.369	0.569	0.508	0.374	0.203
<b>V-freq (Hz)</b>	59.94	66.667	70.087	75	85.008	75	74.55	60.004	85.061	84.997	60	75.029
<b>Sync Polarity</b>	-	-	+	-	-	+	-	-	+	+	+	+
<b>O Period ms</b>	16.683	15	14.268	13.333	11.764	13.333	13.414	16.666	11.756	11.765	16.67	13.328
<b>P Blking ms</b>	0.922	1.286	1.557	0.533	0.67	0.533	0.865	0.786	0.578	0.582	0.642	0.533
<b>Q Sync ms</b>	0.064	0.086	0.064	0.08	0.069	0.064	0.06	0.124	0.056	0.044	0.047	0.05
<b>R B.P. us</b>	0.794	1.114	1.112	0.427	0.578	0.448	0.784	0.6	0.503	0.524	0.501	0.466
<b>S Active us</b>	15.253	13.714	12.711	12.8	11.093	12.821	12.549	15.88	11.179	11.183	16.03	12.795
<b>T F.P. us</b>	0.064	0.086	0.381	0.027	0.023	0.021	0.02	0.062	0.019	0.015	0.094	0.017

### Seperate Sync



#### H.Parameters:

A: Period  
 B: Blanking Time  
 C: Sync Width  
 D: Back Porch  
 E: Active Time  
 F: Front Porch

#### V.Parameters:

G: Period  
 H: Blanking Time  
 I: Sync Width  
 J: Back Porch  
 K: Active Time  
 L: Front Porch

## 2-4 Display Power Management Signal (DPMS)

**Note:** These power-saving states exceed the Environmental Protection Agency (EPA) Energy Star requirements and the Video Electronics Standard Association (VESA) for Display Power Management Signal (DPMS).

Table 2-3. Display Power Management Signal (DPMS)

State	LED Color	H-Sync	V-Sync	Power Consumption
ON	Green	Pulse	Pulse	Normal
STANDBY	Yellow	No Pulse	Pulse	<15 watts
SUSPEND	Yellow	Pulse	No Pulse	<15 watts
OFF	Amber	No Pulse	No Pulse	<3 watts for E model <5 watts for M model

## 2-6 TCO Version (Optional)

The monitor meets the TCO 92, NUTEK energy saving, electric and magnetic field requirements. Also it is compliant with TCO 95/TCO 99 labelling scheme.

### 2-6-1 TCO 92 Version (Optional)

The emission from magnetic and electric field must comply with the limits specified by the Swedish Board for Measurement and Testing, commonly known as MPR 1990 recommendations. These limits are summarized in the Table 2-4.

Table 2-4. TCO 92 Requirements

	VLF/TCO	ELF/TCO
Magnetic Field	25 nT	200 nT
Electric Field	1 V/m	10 V/m
Frequency Range	2~400 kHz	5~2000 Hz
Value	RMS	RMS
Distance	30 cm	30 cm
Electrostatic Potential	+/- 500 V	+/- 500 V

The monitor is designed with selected CRT and carefully routed wires around CRT, make sure exactly the same routing scheme is used when doing CRT replacement.

### 2-6-2 TCO 95 Version (Optional)

The TCO 95 scheme is for international and environmental labelling of personal computers. The labelling scheme was developed as a joint effort by the TCO (The Swedish Confederation of Professional Employees), Naturskyddsforeningen (The Swedish Society for Nature Conservation) and NUTEK (The National Board for Industry and Technical Development in Sweden).

#### 1) Scope

TCO 95 touches on ergonomic qualities, emissions (electrical and magnetic fields), energy efficiency and ecology (with demands for environmental adaptation for both the product and the production processes at the manufacturing plant).

#### 2) Environmental Requirements

The monitor abides by the environmental demands concerning restrictions on the presence and use of heavy metals, brominated and chlorinated flame retardants, CFCs (freons), and chlorinated solvents, among other things. The monitor is also recyclable.

#### 3) Energy Requirements

The monitor also follows the energy requirements that, after a certain period of inactivity, the monitor shall reduce its power consumption to a lower level in one or more stages.

#### 4) Others

The monitor meets the strict environmental demands for the reduction of electric and magnetic fields, physical and visual ergonomics and good usability.

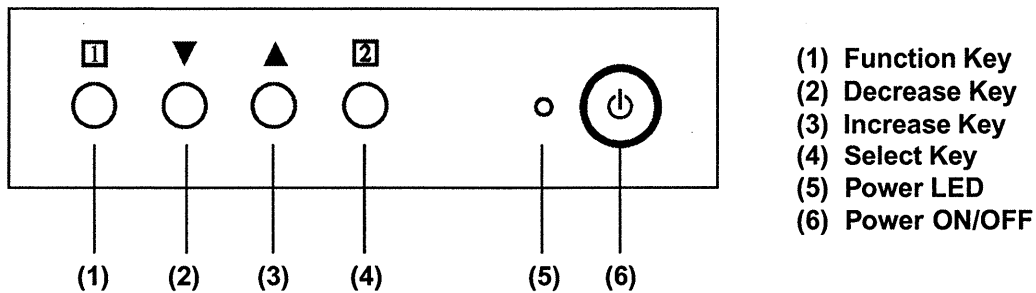
Table 2-5. TCO 95 Visual Ergonomics

Feature	Standard	Description
Linearity	1% or less	Difference in length of columns or rows compared to the corresponding lengths through the center of the monitor.
Display Luminance	100 cd/m <sup>2</sup> (at least)	
Luminance Uniformity	1.7:1 or less	The ratio is between the max to min luminance within the whole active area.

### 2-6-3 TCO 99 Version (Optional)

TCO 99 will append the color temperature specification.

### 3 Control Location and Functions



#### 3-1 Front Panel

#### 3-2 Front Panel Keys Functions

1. Function Key: Display the main menu, and exit the adjustment screen and save adjustments.
2. Decrease Key: Scroll across main menu, highlighting control to be adjusted. Decrease value of selected control. Toggle between Contrast and Brightness adjustment screens.
3. Increase Key: Scroll across main menu, highlighting control to be adjusted. Increase value of selected control. Toggle between Contrast and Brightness adjustment screens.
4. Select Key: Press once to display adjustment screen. Press again, for some controls, to toggle between controls shown in pairs on main menu.
5. Power LED: Display different modes (ON, standby, suspend or OFF) of the monitor by showing different color for each mode.
6. Power ON/OFF: To turn the monitor ON and OFF.




#### 3-3 Adjustment Procedure

1. Press (6) key to turn on the monitor.
2. At normal condition, press (1) on the front panel to activate the on-screen manager (OSM) menu. But to enter the internal adjustment menu, keep pressing (1) & (4) key simultaneously and then press (6) key.
3. To select a user control, press (2) or (3) key repeatedly until the control is highlighted.
4. To adjust the value for particular control, press (4), then press the (2) or (3) key to obtain the desired value. There are a few parameters that do not require any adjustment, like Manual Degauss, Memory Recall.
5. Some controls are grouped in pairs on the main menu. Press (4) key to toggle between them.
6. To save your adjustments and exit screen, press (1) key. The menu will automatically clear out from the screen if no keys are pressed within 30 seconds.




## 4 Operation Theory

This is a fully digital controlled multi-sync color monitor that is compliant with DDC1/2B Plug and Play VESA standard and offers the following main features.

### 4-1 Main Features

1. Simplified design with minimum components.
2. The NOVATEK NT68P61AU processor-- that has I<sup>2</sup>C bus controlled geometric correction, contrast and brightness-- offers the functions for: (a) Contrast, (b) Brightness, (c) H-size, (d) H-position, (e) V-size, (f) V-position, (g) Pincushion, and (h) Trapezoid.  
In addition, it also offers more functions as: (a) Sync. processor, I/P and O/P, (b) Mute, (c) Power saving - Suspend & Stand-By, (d) Power saving override, (e) DDC1/2B, (f) I<sup>2</sup>C Bus for auto-alignment through signal cable (g) CS1 switching for linearity and size compensation.
3. Stores up to 14 factory preset modes and offers 7 user modes. There are 16 function icons in OSD. They are controlled by    keys on front panel.
4. Powerful PHILIPS TDA4856 and TDA4866 present the following useful functions: (a) Pincushion, (b) Trapezoid, (c) V-Position, (d) V-Size, (e) Vertical's "C" and "S" correction -- factory adjust, (f) Pincushion's V. position correction, (g) Corner correction -- factory adjust, (h) Pincushion unbalance correction -- factory adjust, (i) Parallelogram distortion -- factory adjust, (j) Moire cancellation-- factory adjust, (k) X-ray protection, and (l) Full horizontal and vertical auto sync capability.
5. Software controlled auto shut off function activated if fH <= 29 kHz and fH >= 73 kHz.
6. Full range AC input and simplified line filter design.

### 4-2 Microcontrol Section

1. This monitor uses NOVATEK NT68P61AU CPU. It contains a 6502 8-bit CPU core, 256 bytes of RAM used as working RAM and stack area, 24k bytes of OTP ROM, 14-channel 8 bit PWM D/A converter, 2-channel A/D converters for key detection saving I/O pins, internal H. sync and V. sync signals processor providing mode detection, and an I<sup>2</sup>C bus interface. When H/V sync through D-Sub signal cable enter pin 41 and pin 42, the CPU performs frequency / polarity detection and calculate and send to H/V sync OUT. Then CPU reads the data from I703 and transfer to device 4856 and some DAC in CPU, above operation takes about 500 ms.
2. There allows 14 factory preset modes and 7 user modes. There are 8 functions, Contrast, Brightness, H. Size, H. Position, V. Size, V. Position, Pincushion, and Trapezoid, all controlled by OSD icon which can be adjusted by user.
3. The pin 25 and pin 26 are used for ATE function. When CPU receives C6 as slave address, it will operate in ATE mode which is used for auto-alignment. After alignment the data will be stored in I703.
4. The user control parameters are selected by OSD icons, through    keys, they are detected by sensing the voltage through R710, R740, R711, R743, R741, R742 to pin 14 and 15 of I701.

### 4-3 Deflection Section

1. I<sup>2</sup>C -- autosync deflection controller is TDA4856.
2. The TDA4856 is a high performance and efficient solution for autosync monitors. All functions are controllable by I<sup>2</sup>C bus. SDA and SCL signals come from microprocessor feed to pin 19 and pin 18 to control all functions.

#### 4-3-1 Horizontal Section

1. The oscillator is driven by the currents in R467 and R468. The minimum oscillator frequency is determined by R467 and the maximum frequency is determined by R468.
2. Horizontal sync comes into pin 15 through R494. And horizontal flyback pulse comes into pin 1 through R479 and by pass filter C446 from Emitter of Q403 and C406, C407, C461, R407, D432, R404, R402 for AFC loop.
3. Horizontal driver (pin8) output to Q401 via C403, Q401 switching to drive T401 provide IB1/IB2 current then turn on/off Q402 and switching the yoke current.

#### 4-3-2 Vertical Section

1. Vertical sync comes into pin 14 through R493.
2. The free running frequency is determined by R470 and C441.

#### 4-3-3 Vertical O/P section

1. The differential output currents from pin 13 of Vout1 and pin 12 of Vout2 can be directly coupled to the vertical deflection booster pin 1 and pin 2 of TDA4866.
2. The TDA4866 has two output stages which are current driven in opposite phase and operate in combination with the deflection coil in a full bridge configuration.
3. This IC is powered by two sets of positive voltage. (+12.5V at pin 3, +48V at pin 7).

#### 4-3-4 E-W/Trapezoid and H. Width Controls

1. The scan current is determined by B+ (the voltage of C410) that is obtained from step-up circuit output. Step-up circuit include Q405, R414, T403, D407, R411, R412.
2. I401 TDA4856 pin 6 (B DRV) will drive the step-up circuit to change H. width.
3. EW DRV (pin11) provides a complete EW drive waveform including parabola, corner and trapezium correction and feed to BIN (pin 5 of I401) to get a good control for pincushion / trapezoid / corner.
4. The top and bottom corner correction can be adjusted separately.

#### 4-3-5 X-Ray Protection

1. To avoid X-ray hazard, a DC voltage generated by pin 6 of FBT and rectified by D417, C431 and divided by R476, R477 and R478 come into pin 2 of TDA4856.
2. If this voltage is higher than 6.39 V, then TDA4856 will be activated to float HUNLOCK (pin17), H. DRV (pin 8), B DRV (pin 6), VOUT1 (pin 12), VOUT2 (pin13). After that all deflection circuit stop working.

#### 4-3-6 G1, Blanking and Brightness

1. The vertical blanking signal comes from two ways. One is from pin 8 of I301 (TDA4866), the other is from vertical sync (pin 33 of I701). These two positive vertical pulses through Q421 amplified and converted into negative pulse and sent to G1 for vertical blanking.
2. In protection mode or an out-of-range situation HUNLOCK will send 5 V pulse to saturate Q429 and to cutoff Q420, then G1 will go down to -130V. During the mode change, Mute acts as same as HUNLOCK's.
3. The brightness is controlled by CPU pin 3 through PNP transistor Q420. Q420 is a switch in conducted (ON) status normally. The lower or higher control voltage will get low brightness or high brightness.

#### 4-3-7 Contrast Section

1. Contrast is controlled by I701 through I<sup>2</sup>C bus to I501 (TDA4886) directly.
2. Beam current is detected through T402 (FBT) pin 7, C432, Q418, VR402, R453, Q419 and detected voltage feeding into R510, R509, R507, C523 to control I501 pin 24 voltage. When I501 pin 24 voltage drops below 5V, the ABL function will happen.

#### 4-3-8 Dynamic focus circuitry

The dynamic focus is applied to improve the corner focus performance, it includes horizontal and vertical dynamic focus.

1. Horizontal and vertical dynamic comes from I401 pin 32 and amplified through C427, R450, Q416, Q415, Q414, R498 and feed to FBT dynamic focus pins.
2. This amplifier need 700V voltage supply, it comes from FBT pin 2 and rectified through L406, D414 and C426.

### 4-4 Power Supply Section

#### 4-4-1 AC Rectifier

The circuit can accept 90 V to 264 V AC input through D801~D804 bridge diodes and C808 filtering to get DC 126 V~364 V for power conversion in T802.

#### 4-4-2 Line Filter

It consists of C801, C802, C803, C816, C820, C823, C807 and T801 and meets EMI regulation.

#### 4-4-3 Power LED Status

1. The LED has 3 leads with common cathode to emit green and amber color light for different power saving indications. It is controlled by CPU.
2. Normal : Green light  
Amber LED is off because CPU pin 18 is high and pin 17 is low, only green LED is turned on.
3. Standby / Suspend : Yellow light  
CPU pin 17 and pin 18 are low, then green and amber LED are turned on. That is yellow.
4. Off Mode : Amber light  
CPU pin 17 is high and pin 18 is low, then green is off and amber is illuminated.

#### 4-4-4 Auto Degaussing

When S801 turns on, pin 10 of I701 will send a signal to Q802 and turns on RL801 for degaussing. After 4 seconds, it will turn off RL801 automatically.

#### 4-4-5 PWM Control

1. Start Up

The I801 (MC3842) gets power from R831, R830, C812 and pin 7 voltage reaches 16 V for starting up. The I801 starts oscillation at 22 kHz, sawtooth on pin 4 and pin 6 output to drive Q803/T802. Once Q803 switching on, D806, C804 set up an 15 V to keep I801 working through D821 auxiliary voltage.

## 2. Regulation

The DC O/P voltage is proportional to the auxiliary voltage, so I801 pin 2 senses the feedback voltage from the divider R802, R823, VR801 and R821 to compare with the built-in 2.5 volts reference voltage for error amplifier operation. Finally pin 6 can modulate the different duty cycle by VR801 setting to achieve regulation purpose.

### 4-4-6 Synchronization

#### 1. Normal Mode

The sync pulse from FBT (31 kHz~69 kHz) via C815, R826, D824, C814 and R816 to pin 4 of I801 to keep I801 synchronized with horizontal sync input frequency.

#### 2. Power Saving Modes: Standby/Suspend

Because there is no pulse from FBT, so the free-run frequency is decided by R816 and C814 and the SMPS works at 22 kHz.

#### 3. Override

The horizontal free run frequency is about 62.5 kHz under override condition, SMPS is synchronized to this frequency.

### 4-4-7 O.V.P.

If the auxiliary voltage is higher than zener voltage ZD807 (18 volts) and makes pin 3 of I801 higher than 1 V, pin 6 duty cycle is limited to have the OVP activated.

### 4-4-8 O.P.P.

The excess current of T802 through R813, R865 and R864 can develop enough voltage on pin 3 then limit the power delivered because the pin 6 duty cycle is limited too.

### 4-4-9 High Voltage Generation with F.B.T.

1. The H. V generated circuit combines T402 F.B.T. with I402 TL494/KA7500 PWM control circuit.
2. When I402, Vcc(pin12) reaches above 5V, pin 5,6 gets freerun sawtooth waveform about 25KHz and above 9.5V, pin 15's voltage will higher than pin 16 (5V constant) than release pin 3 to be controlled by pin 1 feedback signal and compare with pin 5 to output PWM.
3. HFLB1 is used trigger pin 5 via Q412, to synchronize the deflection circuit.
4. PWM output to drive Q411, T402 generate high voltage (25KV) and T402 pin 11, 12 becomes DC/AC feedback, positive the voltage link to I402 pin 1 non-inverting input to stabilize H.V (25KV) and VR401 be adjusted to control H.V value.
5. When X.R.P occur, the hunlock will keep high to pull down I402 pin 2 and shut down PWM output.

## 4-5 Video Amplifier Section

1. RGB signal inputs are terminated by R525, R526 and R527 then pass through the coupling capacitors C502, C504 and C506 to the IC501 TDA 4886 preamplifier.
2. The amplifier RGB signals (0~3 Vpp) are adjusted by I<sup>2</sup>C bus from I501, pin 5 is for clamp pulse which comes from pin 16 of TDA4856 to set up the equal clamp level.
3. The video output stages are amplified by Q963, Q964, Q903, Q904, Q933, Q934, Q962, Q965 Q902, Q905, Q932, Q935.



4. The RGB cathodes cut off are adjusted by VR961, VR901 and VR931.
5. Under override condition, "CHECK SIGNAL" will show on the screen.

#### **4-6 OSD (On Screen Display) Circuit**

1. The I502 HTV021-02 is OSD IC. The OSD signals are worked by positive vertical pulse from I701 pin 32 that goes through R521 to I502 pin 10, and positive horizontal pulse from HFLB1 through R513 to I502 pin 5. CPU I701 pin 27, 28 (I<sup>2</sup>C bus) transfers information to I502 pin 7, 8.
2. The OSD R. G. B signals and blanking signal are terminated at I502 pin 15, 14, 13, and 12 to I501 pin 2, 3, 4, and 1, then the OSD picture appears.

## 5 Alignments and Adjustments

This section of the service manual explains how to make permanent adjustments to the monitor settings.

### 5-1 General Adjustments

#### 5-1-1 Adjustment Conditions

a) Power Supply

Apply AC 115 V or 220 V

b) Warm-up Time

The monitor must be powered on for 15 minutes before starting any alignment, but requires 30 minutes of warm-up time for convergence adjustment.

c) Signal Input

1. Video: RGB Analog, 0.7 Vp-p, positive
2. Synchronization: Horizontal and vertical TTL signal, separate, positive or negative
3. All adjustments should be made using a signal of FH = 68 kHz, FV = 85 Hz, unless otherwise defined.

#### 5-1-2 Equipment Required

The following equipments are necessary for adjustment procedures:

1. Volt-ohm-A meter (Sanwa FD-750C or equivalent)
2. 30 kV high voltage probe (HP34111A)
3. Oscilloscope (TEK2235 or equivalent)
4. Minolta Color Analyzer II
5. Signal generator (IBM PC with proper display cards or Chroma 2000)
6. Screwdriver

#### 5-1-3 Switching Power Supply and Regulator Adjustment

- a. The regulated B+ control has been preset in the factory and needs no adjustment. However, if any repair is made on the power supply section, the following readjustment procedures are recommended:
1. Allow the monitor to warm-up for about 15 minutes.
  2. Apply XGA (1024 x 768 @ 68 kHz/85 Hz) signal to the monitor.
  3. Connect a DC voltage meter to R512-TP001 end, and adjust VR801 for 12.5 + 0.2 V DC
  4. If a fuse is broken during adjustment, remember to replace it with the exact same type of fuse.
- b. If necessary, follow the following procedures to enter the factory mode.
1. Press both  key and  key simultaneously then power on.  
Now, we are in the factory preset mode.
  2. When turns the power off, monitor will go back to normal mode (user mode).
  3. When you used ATE adjustment future, you should switch S705 to ATE (Factory Position). When you finish the adjustment, please switch S705 to DDC (normal) position to back normal mode.

## 5-2 Alignment Procedures

### 5-2-1 High Voltage Adjustment

#### **CONDITION**

Display image : Crosshatch pattern

#### **PROCEDURE**

Connect DC meter to TP5 and adjust VR401 to obtain a DC voltage of  $-133 \pm 1V$  DC

### 5-2-2 Screen and White Balance Adjustment

#### **CONDITION**

Press **[1]** and **[2]** buttons simultaneously when switching the power "On".

Bias VRs : VR961, VR901, VR931

Display image : No video

#### **PROCEDURE**

- 1 Raster color setting
  - 1-a. Set brightness through OSD menu to -40 V at G1 and 560 V at G2.
  - 1-b Adjust VR961, VR901 and VR931 to maximum.
  - 1-c Adjust VR931 to raster just distinguish.
  - 1-d Set brightness to maximum.
  - 1-e Adjust VR901 to get  $x=280 \pm 5$  and VR961 to get  $y=280 \pm 5$ , brightness = 0.9 ~ 1.2 FL.
  - 1-f Adjust brightness to cut-off.

#### **CONDITION**

Display image : 50 mm x 50 mm white block pattern

#### **PROCEDURE**

- 2 6500°K color temperature setting
  - 2-a. Set brightness to cutoff and contrast to maximum.
  - 2-b Move cursor on OSD to choose color temperature icon.
  - 2-c. Press **[2]** key to G gain then adjust G gain = 68 value, then adjust B, R to  $y=329 \pm 5$ ,  $x=313 \pm 5$ .
  - 2-d Check  $x=313 \pm 5$ ,  $y=329 \pm 5$ .
- 3 9300°K color temperature setting
  - 3-a. Set brightness to cutoff and contrast to maximum.
  - 3-b Move cursor on OSD to choose color temperature icon.
  - 3-c. Press **[2]** key to G gain then adjust G gain = 85 value, then adjust B, R to  $y=297 \pm 5$ ,  $x=283 \pm 5$ .
  - 3-d Adjust contrast to set  $y=42 \pm 2FL$
  - 3-e Check  $x=283 \pm 5$ ,  $y=297 \pm 5$ .
- 4 Full white ABL setting

#### **CONDITION**

Display image : full white pattern

- 4-a Set brightness to cutoff and contrast to maximum.

- 4-b. Adjust VR 402 to  $y=29.5FL \pm 1FL$ .
- 4-c. Check the white balance at 5FL and 28FL.
- 4-d. Repeat all the procedures in 5-2-2 section until the best white balance is obtained, then power off.

### 5-2-3 Focus Adjustment

#### CONDITION

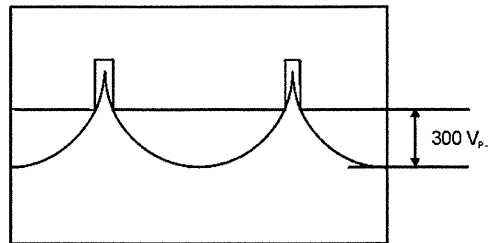
Display image : "e" character pattern

#### PROCEDURE

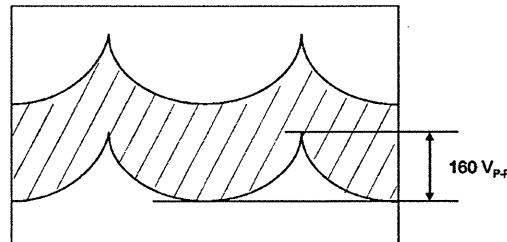
1. Set brightness to cutoff and contrast to maximum.
2. Adjust top VR at T402 (static focus VR) to make vertical line clear.
3. Adjust center VR at T402 (dynamic focus VR) to make horizontal line clear.
4. Repeat above procedures to get best focus.

### 5-2-4 Dynamic focus Adjustments

1. Horizontal dynamic focus set  $H_f=300V$  in phase (compare with  $V_{cp}$  signal).



2. Vertical dynamic focus set  $V_f=160V$  in phase.



### 5-2-5 Static Convergence Adjustments

Static convergence involves alignment of the red, blue and green lines in the center area of the display.

Note : The monitor requires 30 minutes warm-up time for convergence adjustment.

#### CONDITION

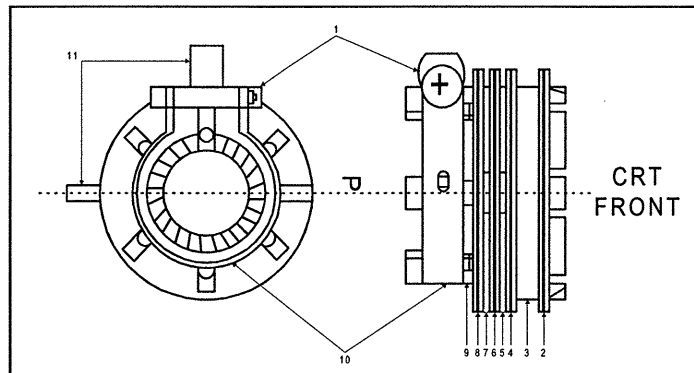
Display image : Crosshatch pattern

Warm-up Time : 30 minutes

#### PROCEDURE

1. Set brightness and contrast to display a well-defined pattern.
2. Ensure the convergence magnet rings are correctly positioned on the CRT.

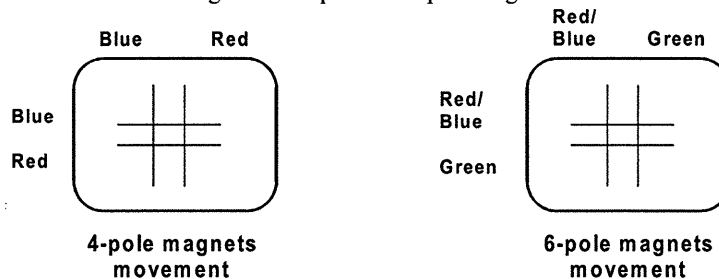
Figure 4-1. Convergence Magnets on the CRT



- |               |                  |           |                  |
|---------------|------------------|-----------|------------------|
| 1) Setup Bolt | 2) Bow Magnet    | 3) Band   | 4) 2-Pole Magnet |
| 5) Spacer     | 6) 4-Pole Magnet | 7) Spacer | 8) 6-Pole Magnet |
| 9) Holder     | 10) Band         | 11) Tabs  |                  |

3. Rotate the individual rings of 4-pole convergence magnets by changing the spacing between the 2 tabs to converge the vertical red and blue lines at the center of the screen.
4. Rotate the pair of rings of 4-pole convergence magnets by maintaining spacing between the 2 tabs to converge the horizontal red and blue lines at the center of the screen.
5. Rotate the individual rings of 6-pole convergence magnets by changing the spacing between the 2 tabs to converge the vertical red, blue and green lines.
6. Rotate the pair of rings of 6-pole convergence magnets by maintaining spacing between the 2 tabs to converge the horizontal red, blue and green lines.
7. Repeat the steps from 3~6 until the best convergence is obtained.

Figure 4-2. 4-pole and 6-pole Magnets Movement



Note : The 4-pole magnets and the 6-pole magnets interact, making dot movement complex.

**5-2-6 Degaussing**

Degaussing is required when poor color impurity appears on the screen. This monitor uses an automatic degaussing circuit that is activated when the power is on. The automatic degaussing will be fully functional again after the monitor has been in operation for 20 minutes.

The degaussing effect is confined to the picture tube since the coils are mounted at the back of the tube. Should any part of the chassis or cabinet becomes magnetized, it is necessary to degauss the affected area with a manual degaussing coil.

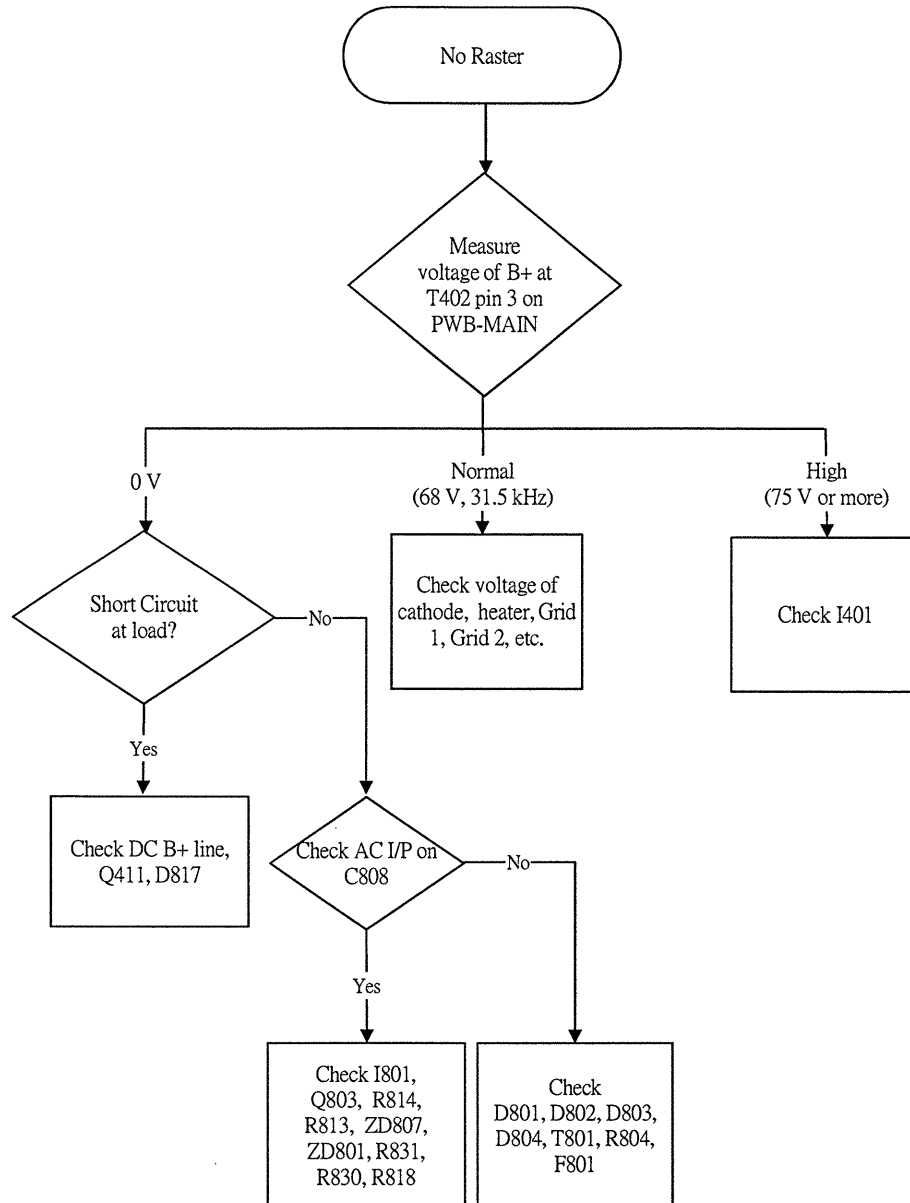
**5-2-7 Manual Degaussing**

1. Apply line voltage to the degaussing coil and move it in a rotary motion over the front, sides, and top of the monitor. The coil should be kept away from the rear of the monitor to avoid damaging the magnetic neck components.
2. Slowly rotate and move the coil away from the monitor to about 6 feet beyond the point where no effect on the CRT will be noticeable.

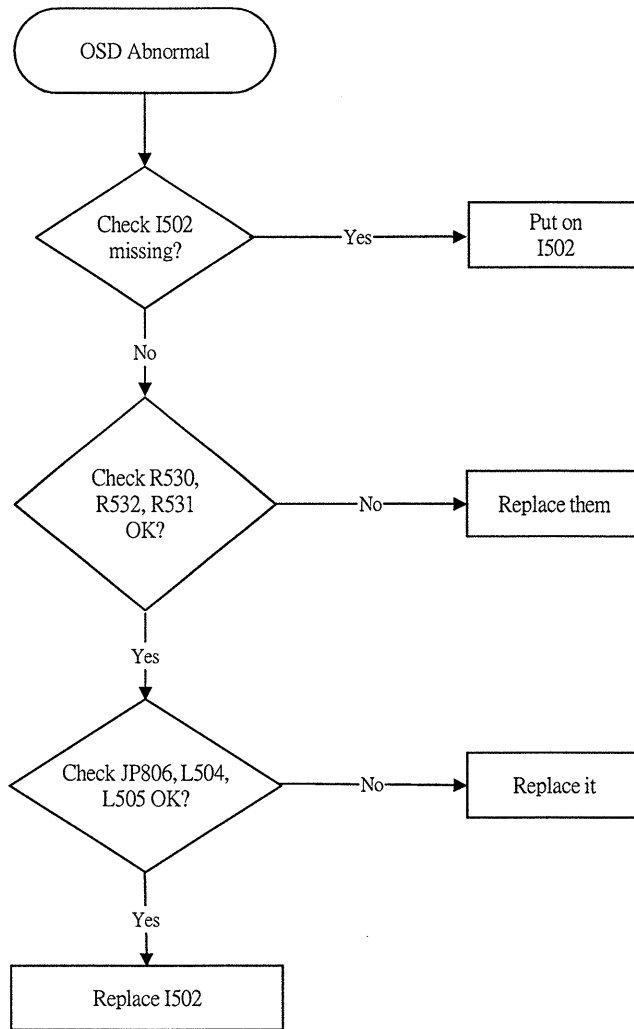
For proper degaussing, it is essential that the field be gradually reduced by moving the coil slowly away from the monitor. The degaussing coil must never be shut off or disconnected while near the monitor, as this would introduce a strong field instead of canceling the effect of the stray fields.

## 6 Troubleshooting

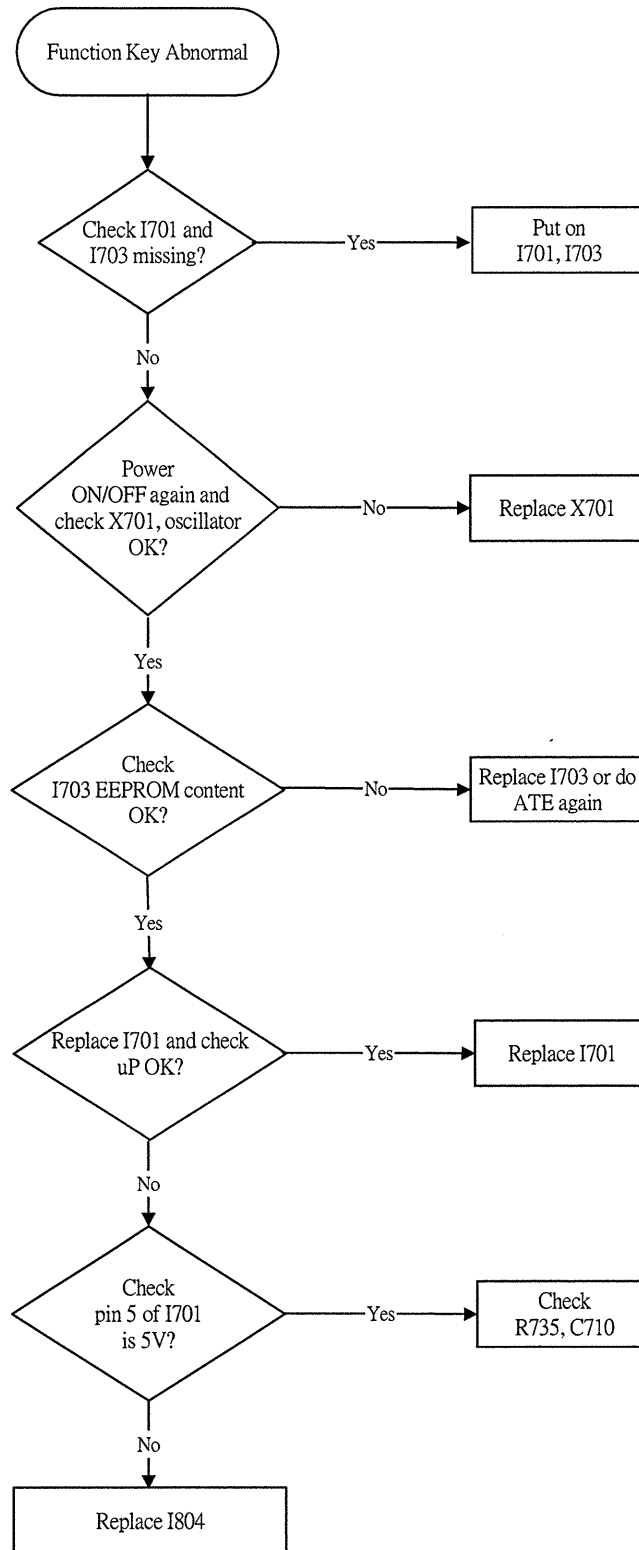
### 6-1 No Raster

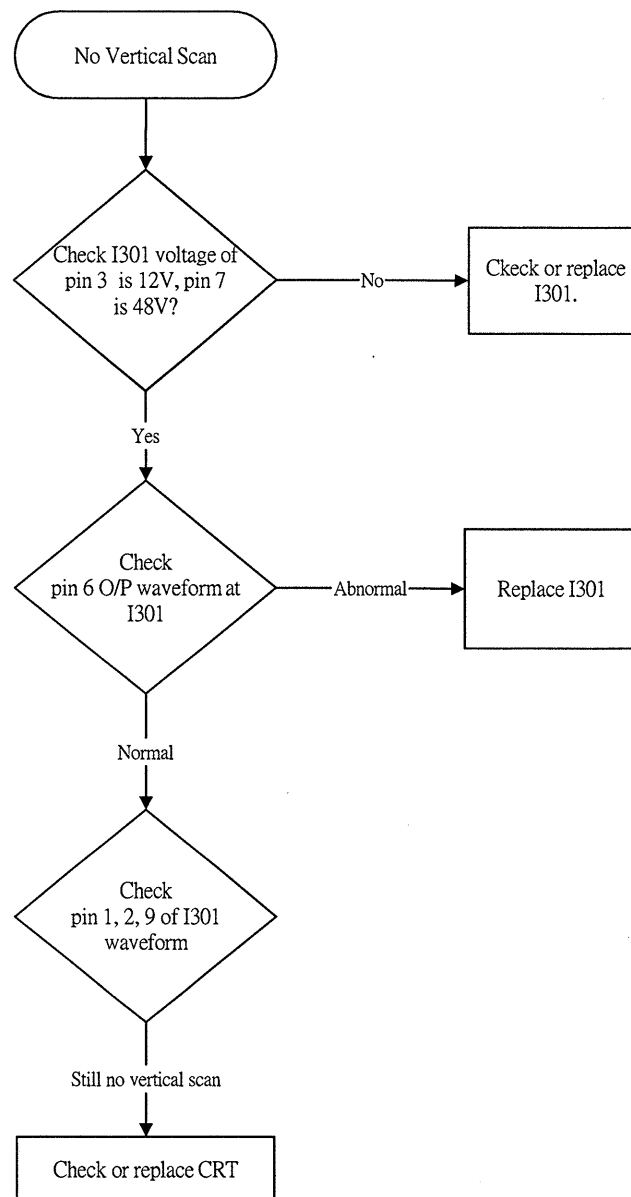


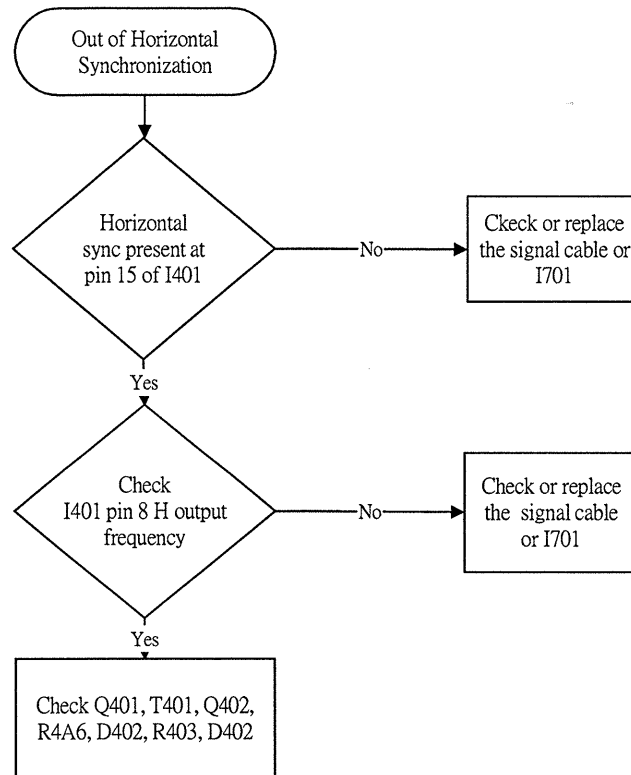
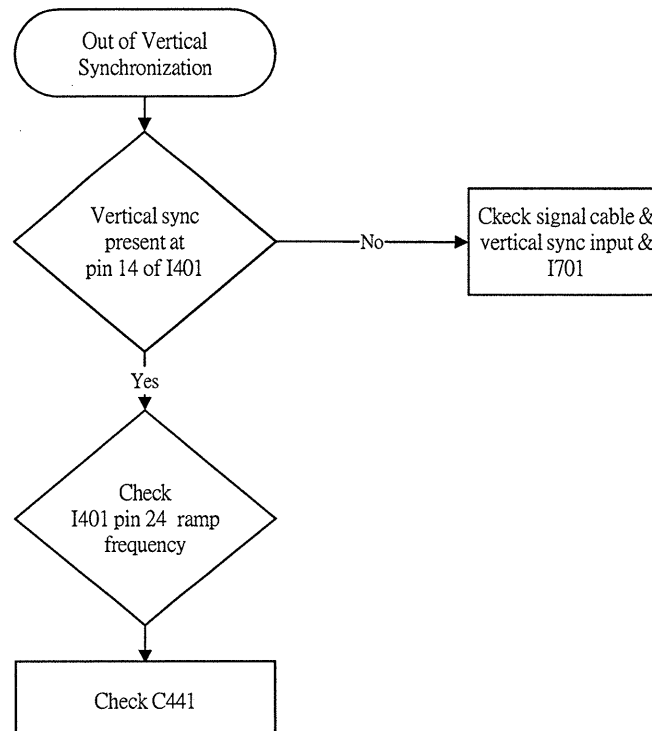
6-2 OSD Abnormal



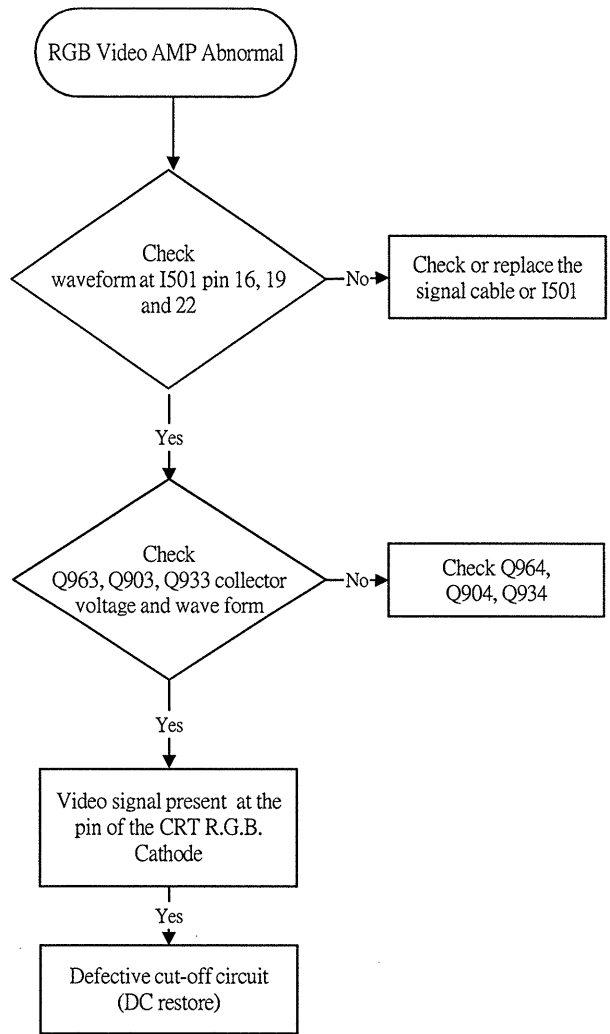


**6-3 Function Key Abnormal**


**6-4 No Vertical Scan (Raster is one horizontal line)**

**6-5 Out of Horizontal Synchronization****6-6 Out of Vertical Synchronization**

**6-7 R.G.B. Video Amplifier Abnormal**



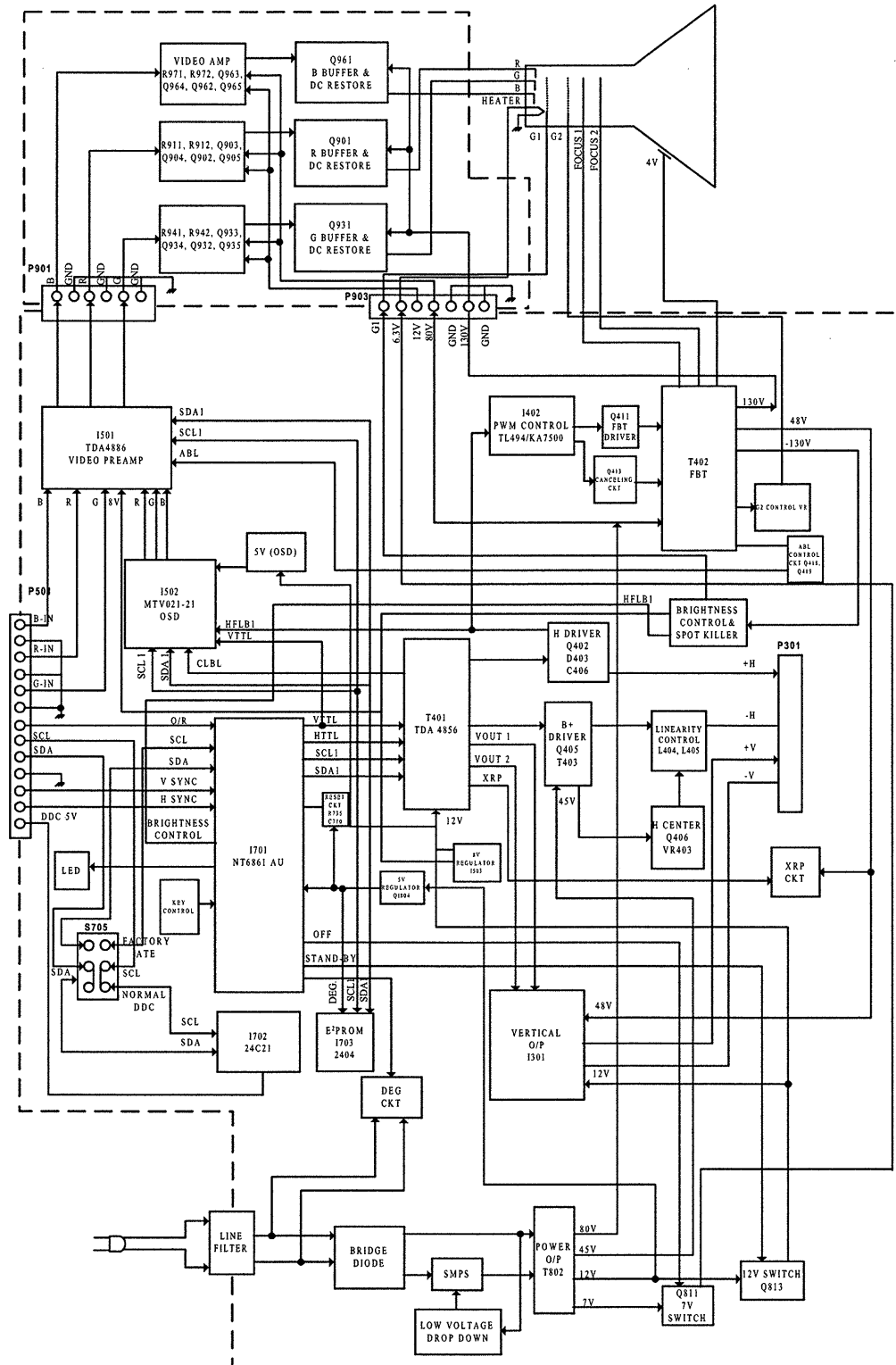
## 7 Recommended Parts List

Note: The components identified by “” mark are critical for X-ray safety. Replace these with exactly the same parts specified.

No.	Location	Part Number	Description
1	C407	6326315446	MPP uF 0.15 400V H F P=15 HJC
2	C808	6312622126	ALU uF 220 400V F 85C 25x40
3	D801 D802 D803 D804	6412011307	DIODE 1N5406 T52 3A/600V
4	D814	6412017900	DIODE RL3 3.5A/350V SANKEN
5	D815	6412004117	DIODE UF2004M T52 2A/400V 50nS
6	D429 D407	6412020203	DIODE HER305 BXF 3A/400V
7 	F801	6851004050	FUSE TIME LAG 5ST4 4A/250V
8	I301	6442012300	IC TDA4866 9P (PHILIPS)
9	I401	6442025200	IC TDA4856 32P SDIP (PHILIPS)
10	I501	6442021500	IC TDA4886 24P SDIP (PHILIPS)
11	I701	6448014500	IC NT68P61AU 40P PDIP OTP NOVAT
12	I703	6448007930	IC 24C04 SAMSUNG
13	I801	6442022000	IC KA3842AC 8P PDIP (SAMSUNG)
14	L403, L411	6111254130	COIL CHOKE 2.5mH K DRWW
15	Q402	6421004410	TR NPN 2SC5386 (TOSHIBA)
16	Q405	6426006300	FET N-CHNL IRFS634A
17	Q411	6426009400	FET N-CHNL IRFS830A
18	Q413	6426006400	FET N-CHNL IRFS630A SAMSUNG
19	Q803	6426006700	FET N-CHNL SSS7N60A SAMSUNG
20	R803	6203090002	POSISTOR 9 OHM Q 2PINPITCH=10
21	R804	6201100012	THERMISTOR 10 OHM 3A P=5 TKS
22	R818	6220327852	FS OHM 0.27 1W J HOR
23	T401	6135000801	XFRMR HOR DRIVE THD-1008A EI19

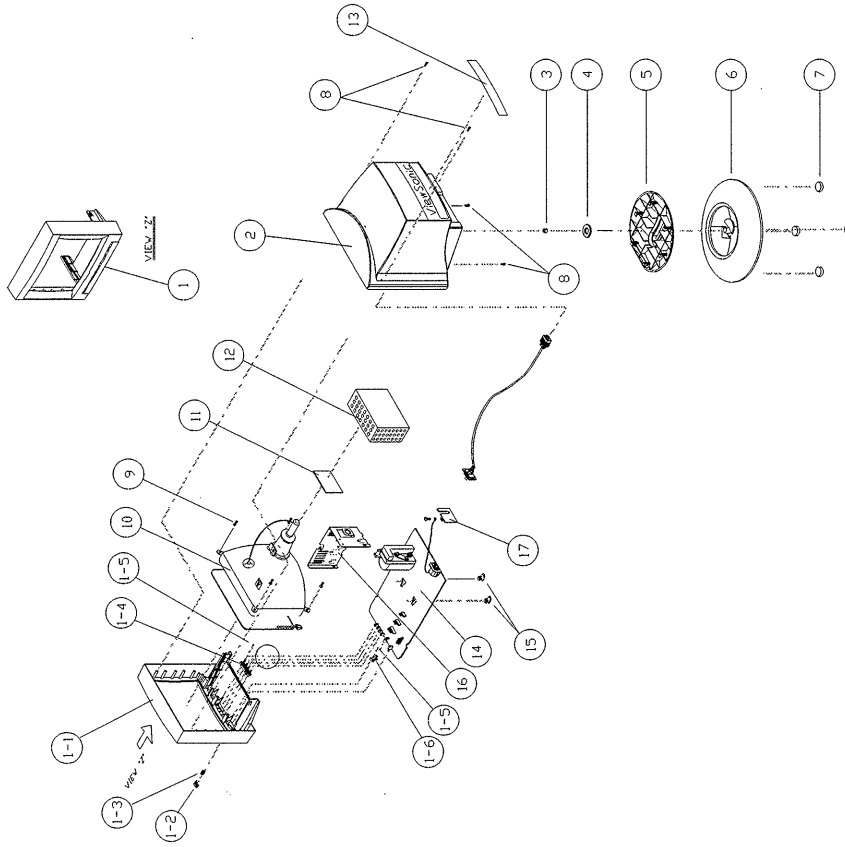
No.	Location	Part Number	Description
24	T402	6133070120	FBT TFB-7012 FEA867 SAMPO
25	T403	6111155174	COIL CHOKE 150 uH
26	T801	6138001601	LINE FILTER TLF-1016A 16mHET28
27	T802	6131060820	XFRMER PWR TPW-1070 EI40
28	X701	6449000719	CRYSTAL 8MHz TOP8.000 30pF TOP
29	D813 D817	6412000520	DIODE RL4A 3A/600V 50nS SANKEN

## 8 Block Diagram



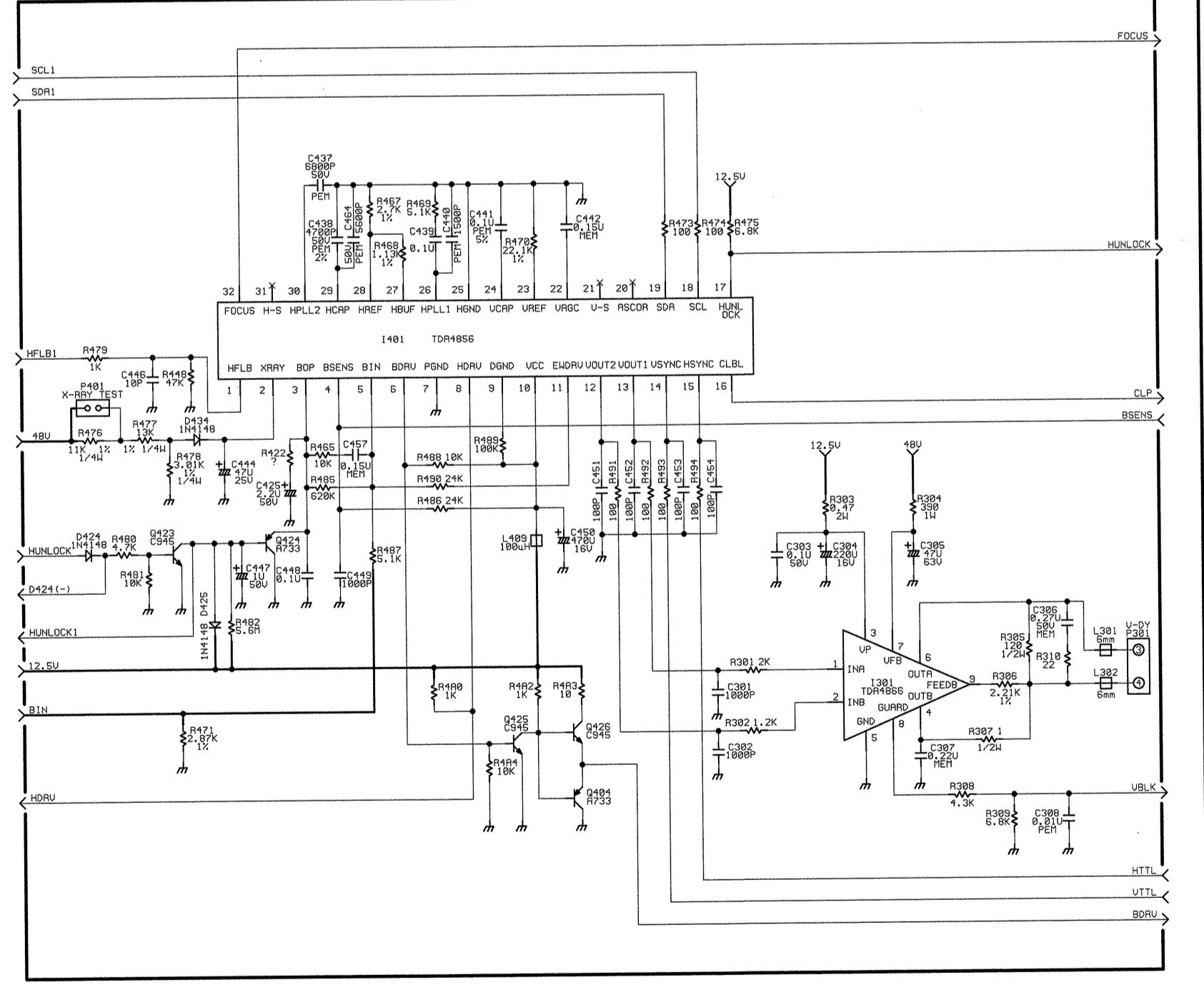
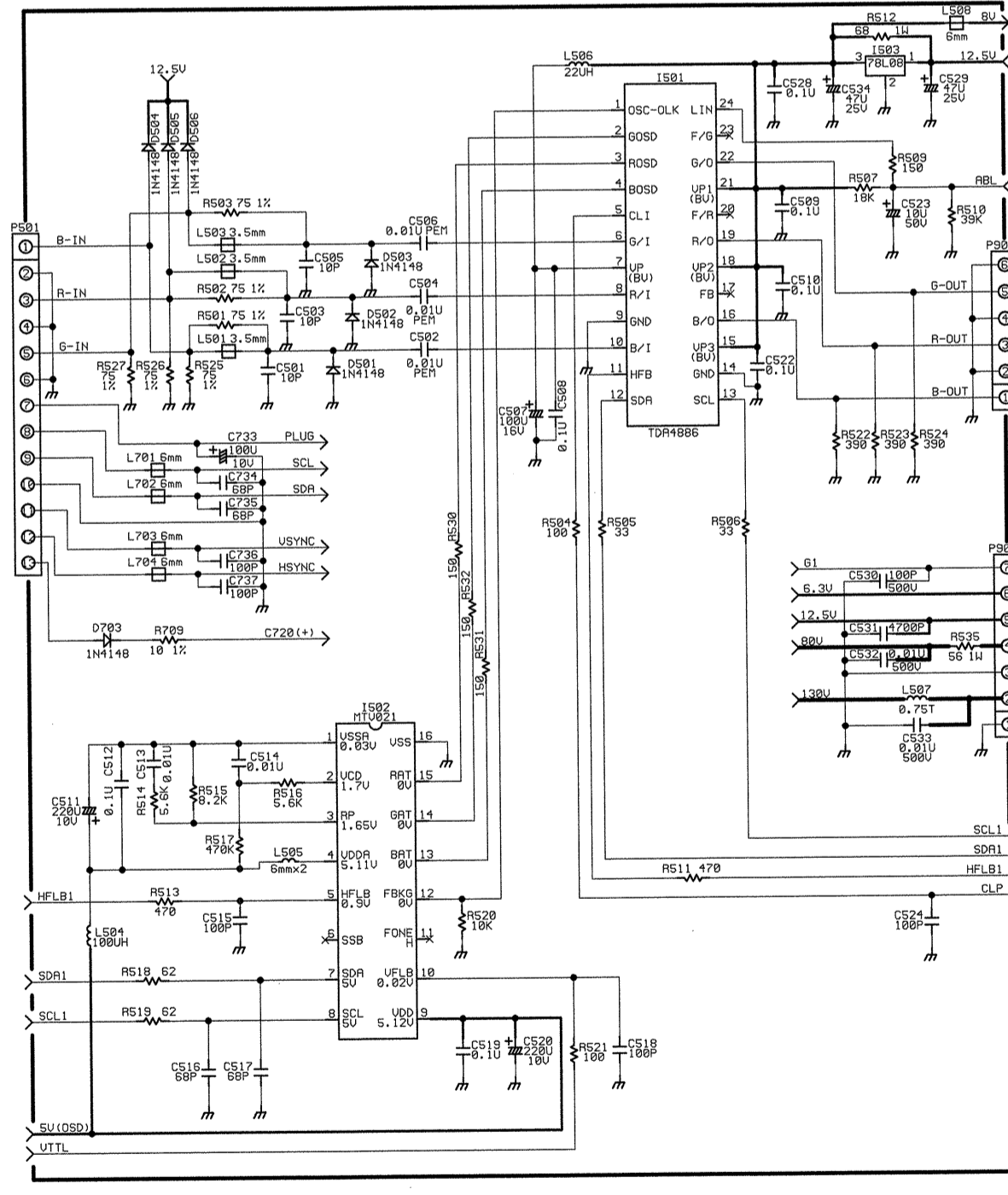
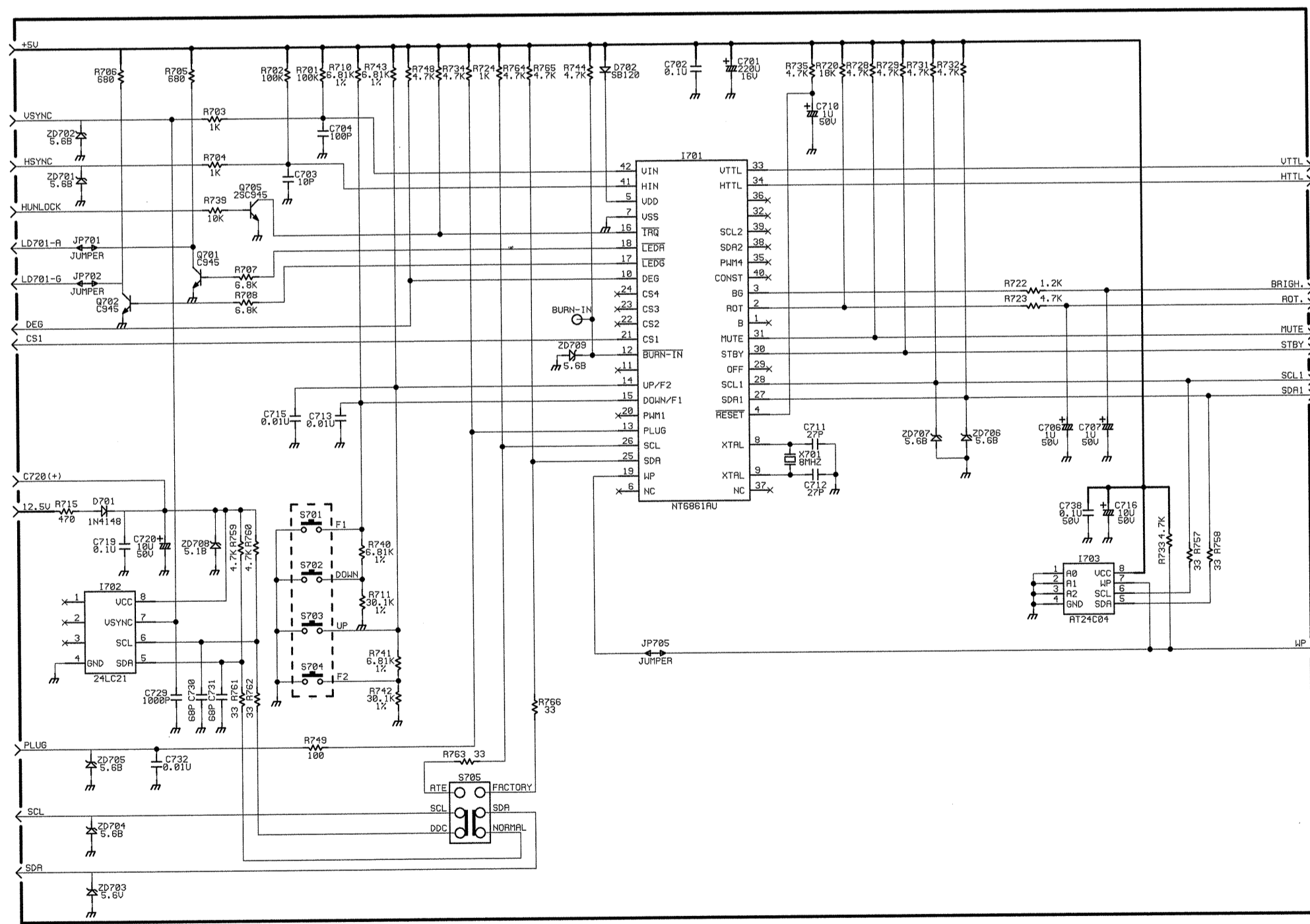
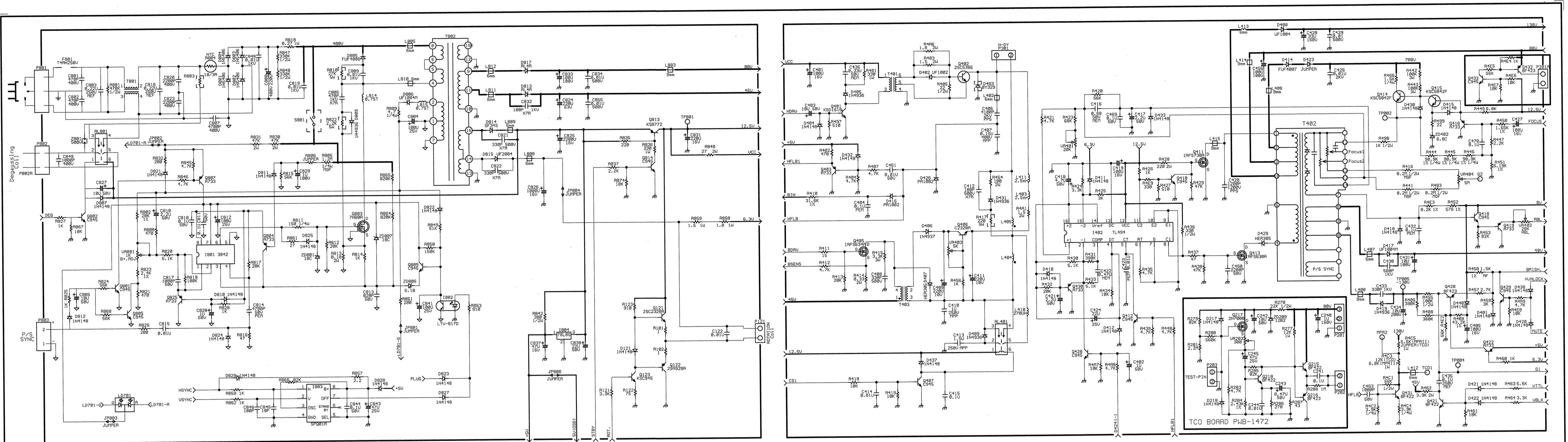
VSC-1770NST  
TCD (E771-4E)

ITEM	PART NO.	DESCRIPTION	QTY
1	7737502751	FRONT COVER ASSY	1
1-1	774213782	FRONT COVER	1
1-2	7742806601	POWDER KNIB	1
1-3	7742803020	POWDER SPRING	1
1-4	7742803410	FUNCTION KEY	1
1-5	7742803601	DOUBLE THREAD SCREW M3X8	3
1-6	7742301510	POWDER LED LENS	1
2	774213751	REAR COVER	1
3	7742802300	RUBBER WASHER	1
4	7742603460	FETTER PLATE	1
5	7744003801	SWIVEL BALL	1
6	7744001043	SWIVEL BASE	1
7	7742801180	RUBBER PAD	4
8	7144140121	SCREW M4X12	4
9	7742800570	CRT SCREW-STAR WASHER	4
10		CRT	1
11	5197700962	CRT BOARD	1
12	7742602150	SHIELD COVER	1
13	7735421350	MODEL LABEL	1
14	5197502304	MAIN BOARD	1
15	7742604750	SUPPORT	1
16	7744402150	FET HEAT SINK	1
17	7742804600	CABLE BRACKET	1
18			1



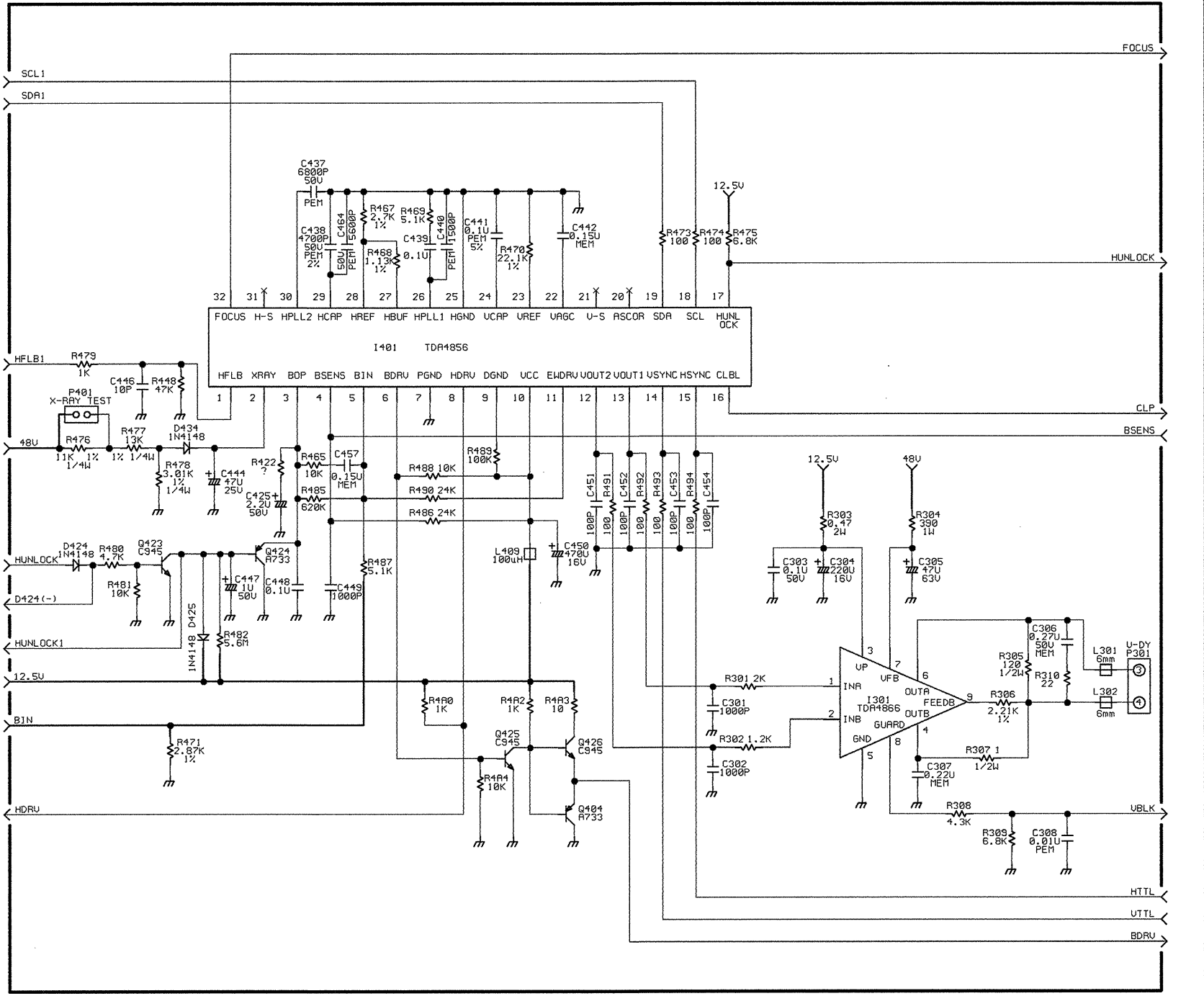
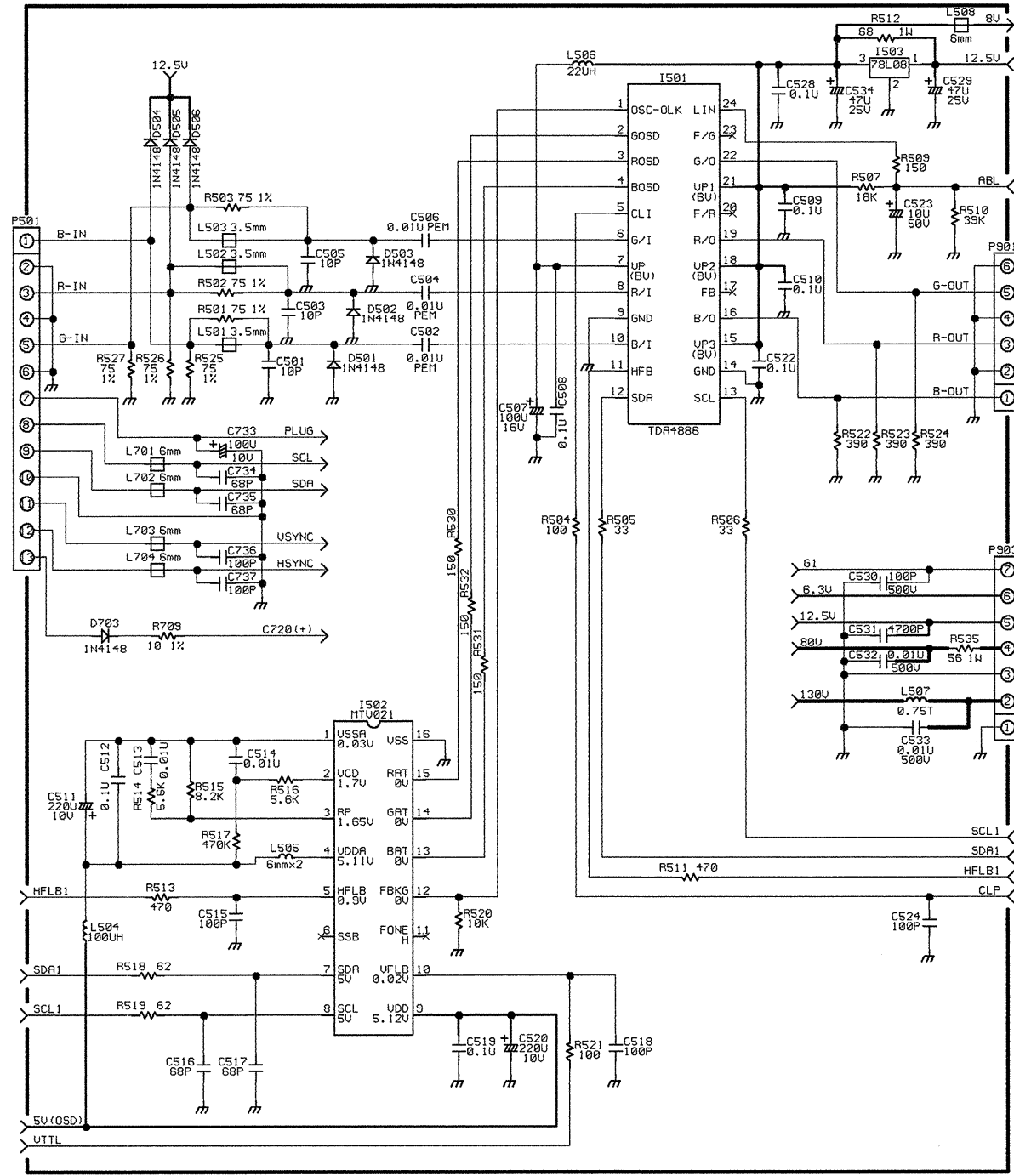
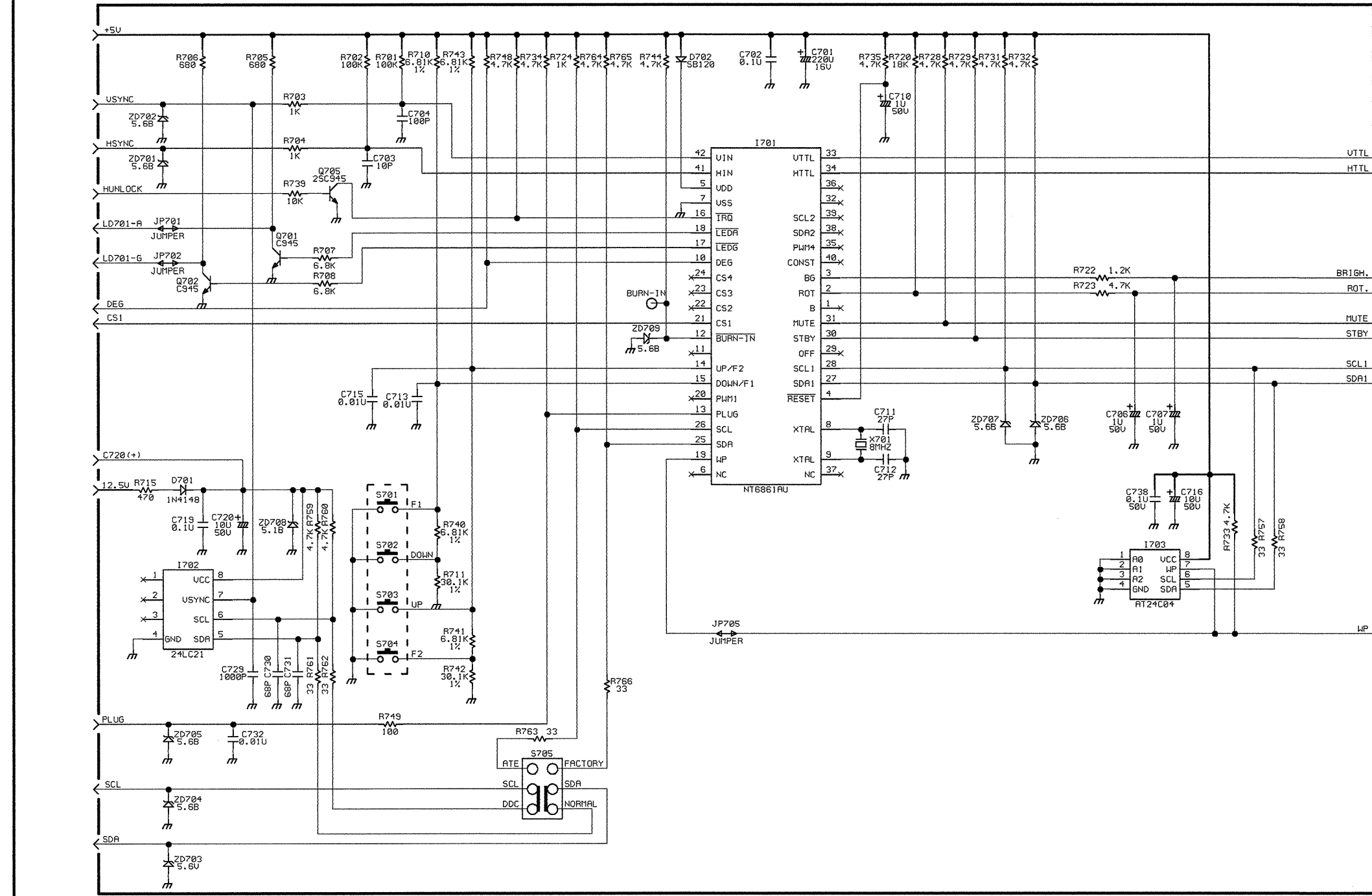
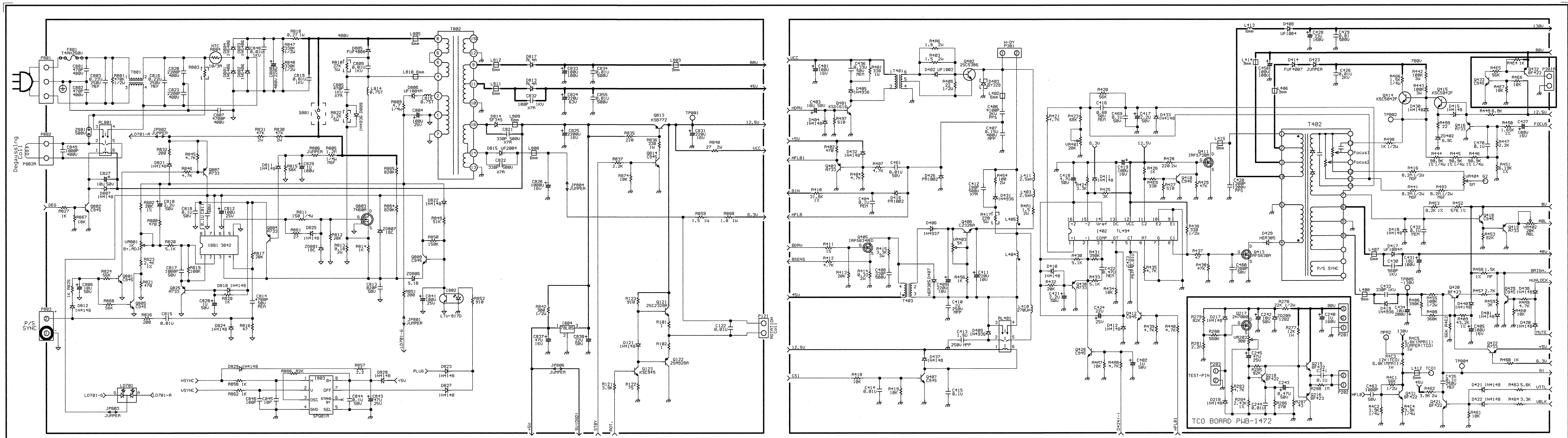
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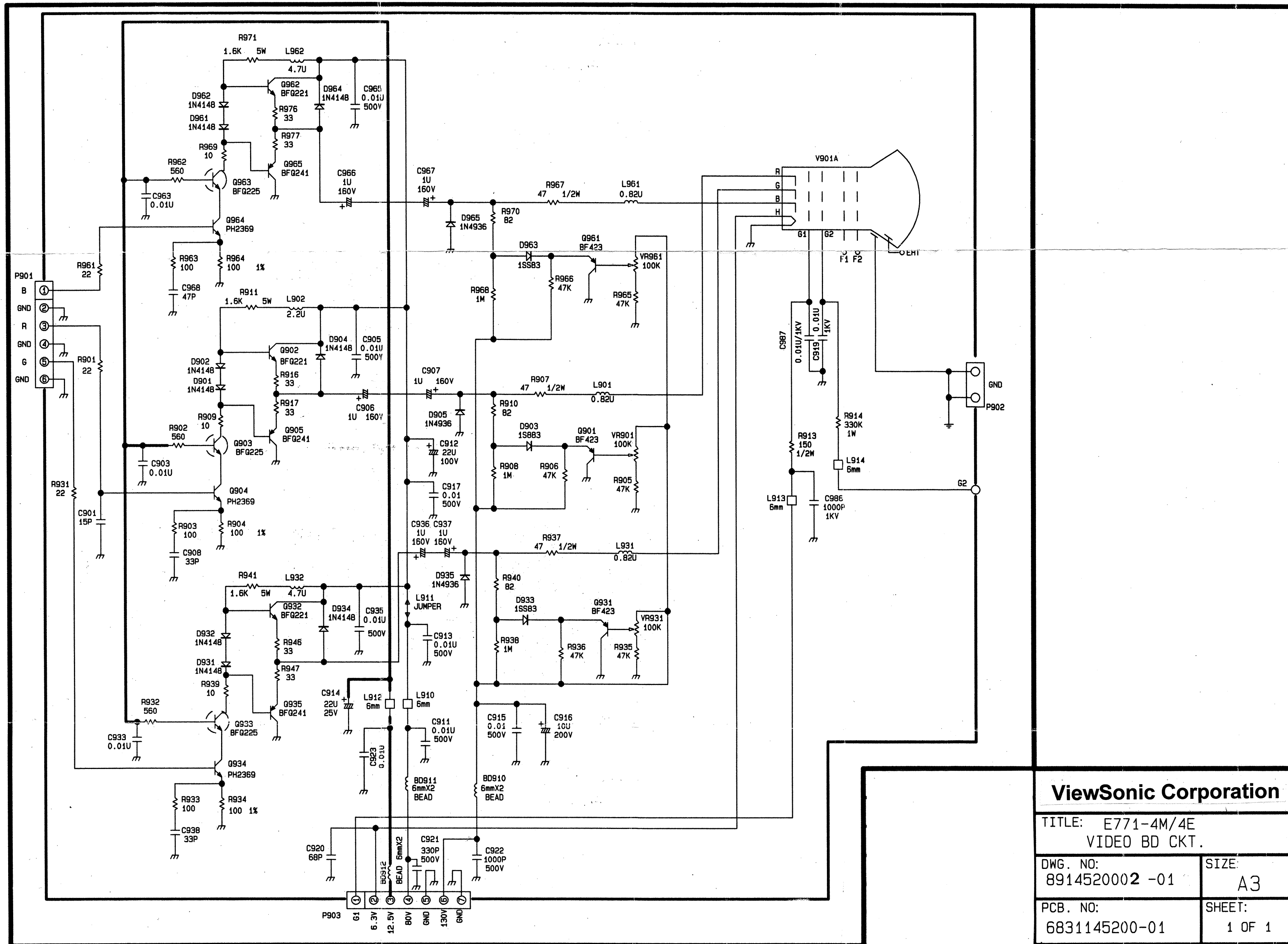
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DRAWN : C.J HUNG	DATE : 07/22/99	Viewsonic Corporation
CHECK :	DATE :	TITLE : E771-4E
APPRO :	DATE :	DWG. NO : 8914540003-01
DESING :	DATE :	PCB. NO : 6831145400-02
CHECK :	DATE :	SIZE : A1
APPRO :	DATE :	SHEET : 1 OF 1



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DRAWN :	DATE :	ViewSonic Corporation
C.J. HUNG	07/22/99	
CHECK :	DATE :	TITLE :
APPRO :	DATE :	E771-4E
DESING :	DATE :	DWG. NO : 8914540003-01
CHECK :	DATE :	PCB. NO : 6831145400-02
APPRO :	DATE :	SIZE : A1
		SHEET : 1 OF 1



<b>ViewSonic Corporation</b>	
TITLE: E771-4M/4E VIDEO BD CKT.	
DWG. NO: 8914520002 -01	SIZE: A3
PCB. NO: 6831145200-01	SHEET: 1 OF 1

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Level	CktId	Grp A	Item No.	Description
1	0		5192201077	CABT-2 VSCB1770NST(99)~E3(C) V
0.2	A6B01		7737602051-0B	R/C ASS'Y #4420 TCO99
0.2	A8C01		7737701501-0A	S/B ASS'Y VSC1766NST TCO99
0.2	V901Q		1120000606	TAPE ACETATE CLOTH
0.2	01P32		7749000200-0D	plastic bag
0.2	02B02		7735421741-0A	X-RAY LABEL 17"
0.2	02B07		7735403950	HI-POT OK LABEL ALL MODEL
0.2	02P11		7740100200	WIRING TIES 250X2.5MM
0.2	6B01M		7140140161	DOUBLE THREAD SCREW M4X16
0.2	9N035		1250000407	JP-888
0.2	9N050		1250000600	CLEANER NAPHTHA
0.2	9N070		1250200100	ADHESIVE SILICONE RUBBER
1	0		5192302417	BURN-IN VSCB1770NST(99)~E3(C)
0.2	A0001		9051200128-0A	ALIG. SPEC. VSC-B1770NSL/NST
0.2	A0002		9061200131-0A	INSP. SPEC. VSC-B1770NSL/NST
0.2	A0003		9042300064-0A	ENGR. SPEC. VSC-B1770NSL/NST
0.2	A0005		9081000165-0A	EDID DATA B1770NST/NSL(E771-4)
0.2	A0006		8914540001-0A	MAIN CKT VSC-B1770NST
0.2	A0007		8914520000-0A	VIDEO CKT B1770NSL/NST
0.2	0		5192101077	CABT-1 VSCB1770NST(99)~E3(C) V
..3	A6F01		7737502752-0C	F/C ASS'Y VSCB1770NST (E771-4)
..3	P202A		6711020720-10	HRNS 2P 1700 1007#24 BLK 1WIRE
..3	P501A		6715006903	VIDEO CBL ONLYCG6902CABLECOLOR
..3	Q403Q		7740100101	CABLE TIES
..3	Q403R		7740100103	WIRING CABLE TIES
..3	TCO1A		6711010210-00	HRNS 1P ID560(2.5Ts)1007#24BLK
..3	T402P		7131440081	SCREW+WASHER M4*8
..3	V901B		6117170090	COIL DEGAUSSING TDG-1709
..3	V901C		6710000820-12	HRNS CRT GND WIRE CHG820-11Lx1
..3	V901D		6101150012	COIL ROT 0.3x100T 455 PVC230+C
..3	V901E		1120000805	3M Aluminum Tape 1300X30mm
..3	V901M		7142750301	SCREW+STAR WASHER
..3	V901O		7742000791	RUBBER CM1564MNCLR/14"
..3	V901P		7742000790	RUBBER C2/C3
..3	V901R		7742000772	RUBBER (C-3,TVM)
..3	0V901		6811172714	CRT M41AGE93X46 C CHUNGHWA
..3	02U02		1241000200	DATE CODE LABEL
..3	05C05		7746202280-0B	TCO PLATE (A1770NST)
..3	05C06		7742605720-0A	WIRE SADDLES
..3	05C07		7131430081	SCREW+WASHER M3*8
..3	05C08		7140140081	DOUBLE THREAD SCREW M4*8
..3	5C01M		7131440081	SCREW+WASHER M4*8
..3	6F01P		7742404170-0A	NAME PLATE 3BIRED
0.2	0		5195602144	CHASSIS VSCB1770NST(99)~E3(C)
..3	T402E		6881000690	CORE MAG W5 T18.4x14.28x9.6
..3	T402G		6881000690	CORE MAG W5 T18.4x14.28x9.6
..3	T402Q		7131440081	SCREW+WASHER M4*8
..3	T402W		7742606220-0A	spacer support

Level	CktId	Grp A	Item No.	Description
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...4	TCO2A		6711010220-00	HRNS 1P 240 1015#22BLK HS/TIN7
...4	U1472		6831147200-01	PCB TCO BD PWB-1472 B1770NST
...4	VR203		6242103001	VR,KOHM, 10,0.1 W,TA,B, 6D,F
...4	ZD209		6414120024	DIODE ZNR MTZJ T-77 12B T26
...4	0C240		6312201045	ALU uF 1 160V T 105C 5x11
...4	0C241		6338110485	CD uF 0.1 50V Z Y5V T
...4	0C242		6311510045	ALU uF 10 50V T 105C 5x11
...4	0C243		6311547845	ALU uF 0.47 50V T 105C 5x11
...4	0C244		6338110385	CD uF 0.01 50V Z Y5V T
...4	0C245		6311347045	ALU uF 47 25V T 105C 5x11
...4	0D217		6412001704	DIODE 1N4148 T26 NS
...4	0D218		6412001704	DIODE 1N4148 T26 NS
...4	0P201		6611030020	PLUG 3P JWT-A2501WV2-3P/JST-XH
...4	0P202		6611020021	PLUG 2P 2.5 JWT-A2501WV2-2P
...4	0Q215		6422002925	TR NPN HBF422T/B TO-92 TAPING
...4	0Q216		6424002215	TR PNP HBF423T/B TO-92 TAPING
...4	0Q217		6426008505	FET N-CHNL 2N7000TA FAIRCHILD
...4	0Q218		6422002925	TR NPN HBF422T/B TO-92 TAPING
...4	0R277		6212356257	CF KOHM 5.6 1/2W J AT52
...4	0R278		6212322357	CF KOHM 22 1/2W J AT52
...4	0R279		6212182354	CF KOHM 82 1/4W J T26 MINI
...4	0R280		6212156454	CF KOHM 560 1/4W J T26 MINI
...4	0R281		6212122554	CF MOHM 2.2 1/4W J T26 MINI
...4	0R282		6212130154	CF OHM 300 1/4W J T26 MINI
...4	0R283		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R284		6224124314	MF KOHM 2.43 1/8W F T26
...4	0R285		6212182354	CF KOHM 82 1/4W J T26 MINI
...4	0R286		6212127154	CF OHM 270 1/4W J T26 MINI
...4	0R287		6212143054	CF OHM 43 1/4W J T26 MINI
...4	0R288		6212110554	CF MOHM 1 1/4W J T26 MINI
...4	0TC02		6632010020	PIN TERMINAL 1P 1.56ECI7551PIN
...3	0		5196900096	CTRL ASSY A1770NSL#N2 LITEON
...4	P801A		6714010035	HRNS 1P 1015#18 CG032CORE&TURN
...4	P801C		1120000110	TUBING, HEAT-SHRINKING 5D,20MM
...4	0P801		6621030071	AC INLET 3P STF309A1-03
...4	9N001		1250000143	SOLDER WIRE SUPER
...3	0		5197700962	CRT BD B1770NSL#U1(C) LITEON
...4	BD910		6881006205	BEAD CORE W4B RH3.5x6x1(W)x2+T
...4	BD911		6881006205	BEAD CORE W4B RH3.5x6x1(W)x2+T
...4	BD912		6881006205	BEAD CORE W4B RH3.5x6x1(W)x2+T
...4	U1452		6831145200-01	PCB VIDEO BD PWB-1452
...4	VR901		6246104100	VR,100 KOHM B 0.5W SA
...4	VR931		6246104100	VR,100 KOHM B 0.5W SA
...4	VR961		6246104100	VR,100 KOHM B 0.5W SA
...4	V901A	S1	6623100110	CRT SOCKET 10P HPS0720-011100
...4	V901A	S0	6623090020	CRT SOCKET 9P ISDW01S INCHANG
...4	0C903		6335110315	CD uF 0.01 50V K Y5P T

Level	CktId	Grp A	Item No.	Description
...4	0C905		6336410305	CD uF 0.01 500V M Z5U T
...4	0C906		6312201045	ALU uF 1 160V T 105C 5x11
...4	0C907		6312201045	ALU uF 1 160V T 105C 5x11
...4	0C908		6331133055	CD pF 33 50V JNPO T
...4	0C911		6336410305	CD uF 0.01 500V M Z5U T
...4	0C912		6312122045	ALU uF 22 100V T 105C 8x12
...4	0C913		6336410305	CD uF 0.01 500V M Z5U T
...4	0C914		6311322045	ALU uF 22 25V T 105C 5x11
...4	0C915		6336410305	CD uF 0.01 500V M Z5U T
...4	0C916		6312310045	ALU uF 10 200V T 105C 10x16
...4	0C917		6336410305	CD uF 0.01 500V M Z5U T
...4	0C919		6336510302	CD uF 0.01 1000V M Z5U F P=10
...4	0C920		6331168055	CD pF 68 50V JNPO T
...4	0C921		6335433115	CD pF 330 500V K Y5P F P=5
...4	0C922		6335410215	CD pF 1000 500V K Y5P T
...4	0C923		6335110315	CD uF 0.01 50V K Y5P T
...4	0C933		6335110315	CD uF 0.01 50V K Y5P T
...4	0C935		6336410305	CD uF 0.01 500V M Z5U T
...4	0C936		6312201045	ALU uF 1 160V T 105C 5x11
...4	0C937		6312201045	ALU uF 1 160V T 105C 5x11
...4	0C938		6331133055	CD pF 33 50V JNPO T
...4	0C963		6335110315	CD uF 0.01 50V K Y5P T
...4	0C965		6336410305	CD uF 0.01 500V M Z5U T
...4	0C966		6312201045	ALU uF 1 160V T 105C 5x11
...4	0C967		6312201045	ALU uF 1 160V T 105C 5x11
...4	0C968		6331147055	CD pF 47 50V JNPO T
...4	0C986		6336510205	CD pF 1000 1000V M Z5U T
...4	0C987		6336510302	CD uF 0.01 1000V M Z5U F P=10
...4	0D901		6412001704	DIODE 1N4148 T26 NS
...4	0D902		6412001704	DIODE 1N4148 T26 NS
...4	0D903		6412003304	DIODE 1SS83TD 1A/300V T26
...4	0D904		6412001704	DIODE 1N4148 T26 NS
...4	0D905		6412011604	DIODE 1N4936 T26 1A/400V LITE
...4	0D931		6412001704	DIODE 1N4148 T26 NS
...4	0D932		6412001704	DIODE 1N4148 T26 NS
...4	0D933		6412003304	DIODE 1SS83TD 1A/300V T26
...4	0D934		6412001704	DIODE 1N4148 T26 NS
...4	0D935		6412011604	DIODE 1N4936 T26 1A/400V LITE
...4	0D961		6412001704	DIODE 1N4148 T26 NS
...4	0D962		6412001704	DIODE 1N4148 T26 NS
...4	0D963		6412003304	DIODE 1SS83TD 1A/300V T26
...4	0D964		6412001704	DIODE 1N4148 T26 NS
...4	0D965		6412011604	DIODE 1N4936 T26 1A/400V LITE
...4	0L901		6115828104	COIL PEAKING 0.82uH K T26
...4	0L902		6115229104	COIL PEAKING 2.2 uH K T26
...4	0L910		6881001507	BEAD CORE W5 RH3.5x6x1.0T
...4	0L912		6881001507	BEAD CORE W5 RH3.5x6x1.0T
...4	0L913		6881001507	BEAD CORE W5 RH3.5x6x1.0T

Level	CktId	Grp A	Item No.	Description
...4	0L914		6881001507	BEAD CORE W5 RH3.5x6x1.0T
...4	0L931		6115828104	COIL PEAKING 0.82uH K T26
...4	0L932		6115479104	COIL PEAKING 4.7 uH K T26
...4	0L961		6115828104	COIL PEAKING 0.82uH K T26
...4	0L962		6115479104	COIL PEAKING 4.7 uH K T26
...4	0P901		6611060020	PLUG 6P JWT-A2501WV2-6P/JST-XH
...4	0P902	S1	6614020010	WAFER 2P RTB-1.5-2(JH-15002)
...4	0P902	S0	6614020070	WAFER 2P D1.56 A1561WV2-2P JWT
...4	0P903		6611070062	PLUG 7P 2.5 JWT-A2501WV2-7P
...4	0Q901		6424002215	TR PNP HBF423T/B TO-92 TAPING
...4	0Q902		6421005005	TR NPN BFQ221,126 PHILIPS
...4	0Q903		6421005100	TR NPN BFQ225,127 PHILIPS
...4	0Q904		6422003605	TR NPN PH2369*B TAPING PHILIPS
...4	0Q905		6423002205	TR PNP BFQ241,126 PHILIPS
...4	0Q931		6424002215	TR PNP HBF423T/B TO-92 TAPING
...4	0Q932		6421005005	TR NPN BFQ221,126 PHILIPS
...4	0Q933		6421005100	TR NPN BFQ225,127 PHILIPS
...4	0Q934		6422003605	TR NPN PH2369*B TAPING PHILIPS
...4	0Q935		6423002205	TR PNP BFQ241,126 PHILIPS
...4	0Q961		6424002215	TR PNP HBF423T/B TO-92 TAPING
...4	0Q962		6421005005	TR NPN BFQ221,126 PHILIPS
...4	0Q963		6421005100	TR NPN BFQ225,127 PHILIPS
...4	0Q964		6422003605	TR NPN PH2369*B TAPING PHILIPS
...4	0Q965		6423002205	TR PNP BFQ241,126 PHILIPS
...4	0R901		6212122054	CF OHM 22 1/4W J T26 MINI
...4	0R902		6212156154	CF OHM 560 1/4W J T26 MINI
...4	0R903		6212110154	CF OHM 100 1/4W J T26 MINI
...4	0R904		6224110004	MF OHM 100 1/8W F T26
...4	0R905		6212147354	CF KOHM 47 1/4W J T26 MINI
...4	0R906		6212147354	CF KOHM 47 1/4W J T26 MINI
...4	0R907		6212347057	CF , OHM, 47 ,1/2W,J,AT52
...4	0R908		6212110554	CF MOHM 1 1/4W J T26 MINI
...4	0R909		6212110054	CF OHM 10 1/4W J T26 MINI
...4	0R910		6212182054	CF OHM 82 1/4W J T26 MINI
...4	0R911		6232116252	??CEM KOHM 1.6 5W J HORh=15
...4	0R913		6212315157	CF , OHM,150 .1/2W,J,AT52
...4	0R914		6221133452	MOF KOHM 330 1W J HOR
...4	0R916		6224133094	MF OHM 33 1/8W F T26
...4	0R917		6224133094	MF OHM 33 1/8W F T26
...4	0R931		6212122054	CF OHM 22 1/4W J T26 MINI
...4	0R932		6212156154	CF OHM 560 1/4W J T26 MINI
...4	0R933		6212110154	CF OHM 100 1/4W J T26 MINI
...4	0R934		6224110004	MF OHM 100 1/8W F T26
...4	0R935		6212147354	CF KOHM 47 1/4W J T26 MINI
...4	0R936		6212147354	CF KOHM 47 1/4W J T26 MINI
...4	0R937		6212347057	CF , OHM, 47 ,1/2W,J,AT52
...4	0R938		6212110554	CF MOHM 1 1/4W J T26 MINI
...4	0R939		6212110054	CF OHM 10 1/4W J T26 MINI

Level	CktId	Grp A	Item No.	Description
...4	0R940		6212182054	CF OHM 82 1/4W J T26 MINI
...4	0R941		6232116252	???CEM KOHM 1.6 5W J HORh=15
...4	0R946		6224133094	MF OHM 33 1/8W F T26
...4	0R947		6224133094	MF OHM 33 1/8W F T26
...4	0R961		6212122054	CF OHM 22 1/4W J T26 MINI
...4	0R962		6212156154	CF OHM 560 1/4W J T26 MINI
...4	0R963		6212110154	CF OHM 100 1/4W J T26 MINI
...4	0R964		6224110004	MF OHM 100 1/8W F T26
...4	0R965		6212147354	CF KOHM 47 1/4W J T26 MINI
...4	0R966		6212147354	CF KOHM 47 1/4W J T26 MINI
...4	0R967		6212347057	CF , OHM, 47 ,1/2W,J,AT52
...4	0R968		6212110554	CF MOHM 1 1/4W J T26 MINI
...4	0R969		6212110054	CF OHM 10 1/4W J T26 MINI
...4	0R970		6212182054	CF OHM 82 1/4W J T26 MINI
...4	0R971		6232116252	???CEM KOHM 1.6 5W J HORh=15
...4	0R976		6224133094	MF OHM 33 1/8W F T26
...4	0R977		6224133094	MF OHM 33 1/8W F T26
...4	9N061		6875000100	HOT MELT ADHESIVE 1101-UL 94V0
..3	0		5197802304	MAIN BD VSCB1770NST(99)~E3(C)
...4	C406A		7740200690	1.6 EYELET FOR NEC
...4	C406B		7740200690	1.6 EYELET FOR NEC
...4	C410A		7740200690	1.6 EYELET FOR NEC
...4	C410B		7740200690	1.6 EYELET FOR NEC
...4	C413A		7740200690	1.6 EYELET FOR NEC
...4	C413B		7740200690	1.6 EYELET FOR NEC
...4	C808A		7740200700	2.0 EYELET FOR NEC
...4	C808B		7740200700	2.0 EYELET FOR NEC
...4	D403A		7740200690	1.6 EYELET FOR NEC
...4	D403B		7740200690	1.6 EYELET FOR NEC
...4	D403C		1250000520	HEAT SINK COMPOUND
...4	D403N		7110230081	MACHINE SCREW M3*8
...4	F801A		6622050010	FUSE CLIP FC-04 FOR D=5MM FUSE
...4	I301C		1250000520	HEAT SINK COMPOUND
...4	I301M		7746402170-0A	HEAT SINK
...4	I301N		7110230101	MACHINE SCREW M3*10
...4	I301P		1250000415	VA-450 SCREW LOCKING
...4	I701A		6626420010	IC SOCKET 42P 8305-42AT00LEOCO
...4	I703A		6626080010	IC SOCKET 8P 8300-08AT00
...4	LD701		6418001401	LED LTL-30EDJHAP 2.9DIA&HOLDER
...4	L403A		7740200690	1.6 EYELET FOR NEC
...4	L403B		7740200690	1.6 EYELET FOR NEC
...4	L404A		7740200700	2.0 EYELET FOR NEC
...4	L404B		7740200700	2.0 EYELET FOR NEC
...4	L405A		7740200690	1.6 EYELET FOR NEC
...4	L405B		7740200690	1.6 EYELET FOR NEC
...4	L411A		7740200690	1.6 EYELET FOR NEC
...4	L411B		7740200690	1.6 EYELET FOR NEC
...4	P201A		6711030990-01	HRNS 3/2P 320 1007#24 30-3P/20



Level	CktId	Grp A	Item No.	Description
...4	P501A		6714010236	HRNS 1P 150 BRAIDED4.3D/TIN5-8
...4	P501B		6714010236	HRNS 1P 150 BRAIDED4.3D/TIN5-8
...4	P501G		6631010020	TEST PIN 1P 2.36MM
...4	P801D		7740200700	2.0 EYELET FOR NEC
...4	P801E		7740200700	2.0 EYELET FOR NEC
...4	P801I		7740200370	RIVET P1438 IBM
...4	P801L		7740200370	RIVET P1438 IBM
...4	P901A		6711060350-00	HRNS 6P 340 1792#28(x3)2530/20
...4	P903A		6711070130	HRNS 7P 240 1007#24 TWISTY ECI
...4	Q402A		7740200690	1.6 EYELET FOR NEC
...4	Q402B		7740200690	1.6 EYELET FOR NEC
...4	Q402C		1250000520	HEAT SINK COMPOUND
...4	Q402N		7110230101	MACHINE SCREW M3*10
...4	Q402P		7740200400	FLANGE HEX NUT
...4	Q405C		1250000520	HEAT SINK COMPOUND
...4	Q405N		7110230101	MACHINE SCREW M3*10
...4	Q405P		7740200400	FLANGE HEX NUT
...4	Q411C		1250000520	HEAT SINK COMPOUND
...4	Q411N		7110230101	MACHINE SCREW M3*10
...4	Q411P		7740200400	FLANGE HEX NUT
...4	Q803C		1250000520	HEAT SINK COMPOUND
...4	Q803M		7746401880	HEAT SINK
...4	Q803N		7110230081	MACHINE SCREW M3*8
...4	Q803P		1250000415	VA-450 SCREW LOCKING
...4	RL401	S0	6854000221	RELAY G5PA-2 DC12V OMRON
...4	RL401	S1	6854000191	RELAY OSA-SS-212DM5 12V OEG
...4	RL801	S0	6854000221	RELAY G5PA-2 DC12V OMRON
...4	RL801	S1	6854000191	RELAY OSA-SS-212DM5 12V OEG
...4	R804A		7740200690	1.6 EYELET FOR NEC
...4	R804B		7740200690	1.6 EYELET FOR NEC
...4	S801A		7740200700	2.0 EYELET FOR NEC
...4	S801B		7740200700	2.0 EYELET FOR NEC
...4	T402A		7740200700	2.0 EYELET FOR NEC
...4	T402B		7740200700	2.0 EYELET FOR NEC
...4	T402C		7740200700	2.0 EYELET FOR NEC
...4	T402D		6714010141	HRNS 1P 110 BRAIDED R4.3D/187N
...4	T402M		7140130101	DOUBLE THREAD SCREW M3*10
...4	T402N		7746402190-0A	FBT HEAT SINK (B1770)
...4	T403A		7740200690	1.6 EYELET FOR NEC
...4	T403B		7740200690	1.6 EYELET FOR NEC
...4	T801A		7740200690	1.6 EYELET FOR NEC
...4	T801B		7740200690	1.6 EYELET FOR NEC
...4	T802A		7740200700	2.0 EYELET FOR NEC
...4	T802B		7740200700	2.0 EYELET FOR NEC
...4	U1468		6831146800-01	PCB MAIN BD PWB-1468
...4	VR401		6242203001	VR,KOHM, 20,0.1 W,TA,B, 6D,F
...4	VR402		6242203001	VR,KOHM, 20,0.1 W,TA,B, 6D,F
...4	VR403		6242502001	VR,KOHM, 5,0.1 W,TA,B, 6D,F

Level	CktId	Grp A	Item No.	Description
...4	VR404		6246505000	VR MOHM 5 0.5 W TA B 8D
...4	VR801		6242102001	VR,KOHM, 1,0.1 W,TA,B, 6D,F
...4	X701A		6524025016	WIRE 1007 #24 BLU 25MM 6/6
...4	ZD402		6414068034	DIODE ZNR MTZJ T-77 6.8C T26
...4	ZD701		6414056014	DIODE ZNR MTZJ T-77 5.6B T26
...4	ZD702		6414056014	DIODE ZNR MTZJ T-77 5.6B T26
...4	ZD703		6414056014	DIODE ZNR MTZJ T-77 5.6B T26
...4	ZD704		6414056014	DIODE ZNR MTZJ T-77 5.6B T26
...4	ZD705		6414056014	DIODE ZNR MTZJ T-77 5.6B T26
...4	ZD706		6414056014	DIODE ZNR MTZJ T-77 5.6B T26
...4	ZD707		6414056014	DIODE ZNR MTZJ T-77 5.6B T26
...4	ZD708		6414051024	DIODE ZNR MTZJ T-77 5.1B T26
...4	ZD709		6414056014	DIODE ZNR MTZJ T-77 5.6B T26
...4	ZD801		6414180004	DIODE ZNR MTZJ T-77 18C T26
...4	ZD806		6414051024	DIODE ZNR MTZJ T-77 5.1B T26
...4	ZD807		6414180004	DIODE ZNR MTZJ T-77 18C T26
...4	0C122		6335110315	CD uF 0.01 50V K Y5P T
...4	0C301		6335110215	CD pF 1000 50V K Y5P T
...4	0C302		6335110215	CD pF 1000 50V K Y5P T
...4	0C303		6338110485	CD uF 0.1 50V Z Y5V T
...4	0C304		6311222145	ALU uF 220 16V T 105C 8x12
...4	0C305		6311647045	ALU uF 47 63V T 105C 8x12
...4	0C306		6356127455	MEM uF 0.27 50V J T
...4	0C307		6356122455	MEM,uF,0.22 , 50V,J,T
...4	0C308		6357110355	PEM uF 0.01 50V J T
...4	0C401		6311210145	ALU uF 100 16V T 105C 6.3x11
...4	0C402		6311501045	ALU uF 1 50V T 105C 5x11
...4	0C403		6311510045	ALU uF 10 50V T 105C 5x11
...4	0C404		6357110455	PEM uF 0.1 50V J T
...4	0C405		6311210145	ALU uF 100 16V T 105C 6.3x11
...4	0C406		6325441252	PPS uF 0.0041 2000V J F P=27.5
...4	0C407		6326315446	MPP uF 0.15 400V H F P=15 HJC
...4	0C408		6338433115	CD pF 330 500V K X7R T
...4	0C409		6311122145	ALU uF 220 10V T 105C 6.3x11
...4	0C410	S0	6326210542	MPP uF 1.0 250V J F P=27.5HJC
...4	0C410	S1	6326210552	MPP uF 1.0 250V J F P=27.5TAI
...4	0C411		6311122145	ALU uF 220 10V T 105C 6.3x11
...4	0C412		6338418115	CD pF 180 500V K X7R T
...4	0C413	S0	6326215542	MPP uF 1.5 250V J F P=27.5HJC
...4	0C413	S1	6326215552	MPP uF 1.5 250V J F P=27.5TAI
...4	0C415		6338110485	CD uF 0.1 50V Z Y5V T
...4	0C416		6356168455	MEM uF 0.68 50V J T
...4	0C417		6311522945	ALU uF 2.2 50V T 105C 5x11
...4	0C418		6311547945	ALU uF 4.7 50V T 105C 5x11
...4	0C419		6311210145	ALU uF 100 16V T 105C 6.3x11
...4	0C420		6325212252	PPS uF 0.0012 1200V J F P=22.5
...4	0C421		6311522945	ALU uF 2.2 50V T 105C 5x11
...4	0C422		6356147455	MEM,uF,0.47 , 50V,J,T

Level	CktId	Grp A	Item No.	Description
...4	0C423		6357110355	PEM uF 0.01 50V J T
...4	0C424		6311322045	ALU uF 22 25V T 105C 5x11
...4	0C426		6336610302	CD uF 0.01 2000V M Z5U F P=10
...4	0C427		6311210145	ALU uF 100 16V T 105C 6.3x11
...4	0C428		6312222045	ALU uF 22 160V T 105C 10x16
...4	0C429		6336410305	CD uF 0.01 500V M Z5U T
...4	0C430		6335556115	CD pF 560 1000V K Y5P T
...4	0C431		6312110045	ALU uF 10 100V T 105C 6.3x11
...4	0C432		6357110455	PEM uF 0.1 50V J T
...4	0C433		6335533115	CD pF 330 1000V Y5P K T
...4	0C434		6312310045	ALU uF 10 200V T 105C 10x16
...4	0C435		6321210452	MEF uF 0.1 250V J F P=10
...4	0C436		6356133455	MEM,uF,0.33 , 50V,J,T
...4	0C437		6357168255	PEM,pF, 6800, 50V,J,T
...4	0C438		6357147255	PEM,pF, 4700, 50V,J,T
...4	0C439		6338110485	CD uF 0.1 50V Z Y5V T
...4	0C440		6357115255	PEM pF 1500 50V J T
...4	0C441		6357110455	PEM uF 0.1 50V J T
...4	0C442		6356115455	MEM uF 0.15 50V J T
...4	0C444		6311347045	ALU uF 47 25V T 105C 5x11
...4	0C446		6331110055	CD pF 10 50V J NPO T
...4	0C447		6311501045	ALU uF 1 50V T 105C 5x11
...4	0C448		6338110485	CD uF 0.1 50V Z Y5V T
...4	0C449		6335110215	CD pF 1000 50V K Y5P T
...4	0C450		6311247145	ALU uF 470 16V T 105C 10x12.5
...4	0C451		6335110115	CD pF 100 50V K Y5P T
...4	0C452		6335110115	CD pF 100 50V K Y5P T
...4	0C453		6335110115	CD pF 100 50V K Y5P T
...4	0C454		6335110115	CD pF 100 50V K Y5P T
...4	0C456		6312110145	ALU uF 100 100V T 105C 10x20
...4	0C457		6356115455	MEM uF 0.15 50V J T
...4	0C460		6335122215	CD pF 2200 50V K Y5P T
...4	0C461		6335110315	CD uF 0.01 50V K Y5P T
...4	0C463		6335110215	CD pF 1000 50V K Y5P T
...4	0C464		6357156255	PEM,pF, 5600, 50V,J,T
...4	0C469		6338110485	CD uF 0.1 50V Z Y5V T
...4	0C470		6338110485	CD uF 0.1 50V Z Y5V T
...4	0C501		6331110055	CD pF 10 50V J NPO T
...4	0C502		6357110355	PEM uF 0.01 50V J T
...4	0C503		6331110055	CD pF 10 50V J NPO T
...4	0C504		6357110355	PEM uF 0.01 50V J T
...4	0C505		6331110055	CD pF 10 50V J NPO T
...4	0C506		6357110355	PEM uF 0.01 50V J T
...4	0C507		6311210145	ALU uF 100 16V T 105C 6.3x11
...4	0C508		6338110485	CD uF 0.1 50V Z Y5V T
...4	0C509		6338110485	CD uF 0.1 50V Z Y5V T
...4	0C510		6338110485	CD uF 0.1 50V Z Y5V T
...4	0C511		631122145	ALU uF 220 10V T 105C 6.3x11

Level	CktId	Grp A	Item No.	Description
...4	0C512		6338110485	CD uF 0.1 50V Z Y5V T
...4	0C513		6335110315	CD uF 0.01 50V K Y5P T
...4	0C514		6335110315	CD uF 0.01 50V K Y5P T
...4	0C515		6335110115	CD pF 100 50V K Y5P T
...4	0C516		6331968055	CD pF 68 50V J SL T
...4	0C517		6331968055	CD pF 68 50V J SL T
...4	0C518		6335110115	CD pF 100 50V K Y5P T
...4	0C519		6338110485	CD uF 0.1 50V Z Y5V T
...4	0C520		6311122145	ALU uF 220 10V T 105C 6.3x11
...4	0C522		6338110485	CD uF 0.1 50V Z Y5V T
...4	0C523		6311510045	ALU uF 10 50V T 105C 5x11
...4	0C524		6335110115	CD pF 100 50V K Y5P T
...4	0C528		6338110485	CD uF 0.1 50V Z Y5V T
...4	0C529		6311347045	ALU uF 47 25V T 105C 5x11
...4	0C530		6332910155	CD pF 100 500V J SL T
...4	0C531		6335147215	CD pF 4700 50V K Y5P T
...4	0C532		6336410305	CD uF 0.01 500V M Z5U T
...4	0C533		6336410305	CD uF 0.01 500V M Z5U T
...4	0C534		6311347045	ALU uF 47 25V T 105C 5x11
...4	0C701		6311222145	ALU uF 220 16V T 105C 8x12
...4	0C702		6338110485	CD uF 0.1 50V Z Y5V T
...4	0C703		6331910015	CD pF 10 50V K SL T
...4	0C704		6335110115	CD pF 100 50V K Y5P T
...4	0C706		6311501045	ALU uF 1 50V T 105C 5x11
...4	0C707		6311501045	ALU uF 1 50V T 105C 5x11
...4	0C710		6311501045	ALU uF 1 50V T 105C 5x11
...4	0C711		6331127055	CD pF 27 50V J NPO T
...4	0C712		6331127055	CD pF 27 50V J NPO T
...4	0C713		6335110315	CD uF 0.01 50V K Y5P T
...4	0C715		6335110315	CD uF 0.01 50V K Y5P T
...4	0C716		6311510045	ALU uF 10 50V T 105C 5x11
...4	0C719		6338110485	CD uF 0.1 50V Z Y5V T
...4	0C720		6311510045	ALU uF 10 50V T 105C 5x11
...4	0C729		6335110215	CD pF 1000 50V K Y5P T
...4	0C730		6331968055	CD pF 68 50V J SL T
...4	0C731		6331968055	CD pF 68 50V J SL T
...4	0C732		6335110315	CD uF 0.01 50V K Y5P T
...4	0C733		6311110145	ALU uF 100 10V T 105C 5x11
...4	0C734		6331968055	CD pF 68 50V J SL T
...4	0C735		6331968055	CD pF 68 50V J SL T
...4	0C736		6335110115	CD pF 100 50V K Y5P T
...4	0C737		6335110115	CD pF 100 50V K Y5P T
...4	0C738		6338110485	CD uF 0.1 50V Z Y5V T
...4	0C801	S1	6302147182	CD pF 470 400V K F 7.5 sY P/O
...4	0C801	S0	6302147172	CD pF 470 400V K F 7.5 SY MAT
...4	0C802	S1	6302147182	CD pF 470 400V K F 7.5 sY P/O
...4	0C802	S0	6302147172	CD pF 470 400V K F 7.5 SY MAT
...4	0C803	S1	6328222409	X2MEF uF 0.22 250V M P=22.5MEC

Level	CktId	Grp A	Item No.	Description
...4	0C803	S0	6328822409	X2MEF uF 0.22 275V M P=15 MAT
...4	0C804		6311310145	ALU uF 100 25V T 105C 6.3x11
...4	0C805		6338547115	CD pF 470 1000V K X7R T
...4	0C806		6311510045	ALU uF 10 50V T 105C 5x11
...4	0C807		6302447242	CD pF 4700 400V M F 10 SY1 MAT
...4	0C808		6312622126	ALU uF 220 400V F 85C 25x40
...4	0C809		6336510302	CD uF 0.01 1000V M Z5U F P=10
...4	0C810		6311522945	ALU uF 2.2 50V T 105C 5x11
...4	0C811		6338110485	CD uF 0.1 50V Z Y5V T
...4	0C812		6311310145	ALU uF 100 25V T 105C 6.3x11
...4	0C813		6335182115	CD pF 820 50V K Y5P T
...4	0C814		6357147255	PEM,pF, 4700, 50V,J,T
...4	0C815		6335110315	CD uF 0.01 50V K Y5P T
...4	0C816	S1	6328222409	X2MEF uF 0.22 250V M P=22.5MEC
...4	0C816	S0	6328822409	X2MEF uF 0.22 275V M P=15 MAT
...4	0C817		6335110215	CD pF 1000 50V K Y5P T
...4	0C818		6338110485	CD uF 0.1 50V Z Y5V T
...4	0C819		6336510302	CD uF 0.01 1000V M Z5U F P=10
...4	0C820		6302422242	CD pF 2200 400V M F 10 SY1 MAT
...4	0C821		6338433115	CD pF 330 500V K X7R T
...4	0C822		6338433115	CD pF 330 500V K X7R T
...4	0C823		6302422242	CD pF 2200 400V M F 10 SY1 MAT
...4	0C824		6311622145	ALU uF 220 63V T 105C 10x16
...4	0C825		6311222242	ALU uF 2200 16V F 105C 13x25
...4	0C826		6311210245	ALU uF 1000 16V T 105C 10x20
...4	0C827		6311510045	ALU uF 10 50V T 105C 5x11
...4	0C828		6311501045	ALU uF 1 50V T 105C 5x11
...4	0C829		6312101045	ALU uF 1 100V T 105C 5x11
...4	0C831		6311222145	ALU uF 220 16V T 105C 8x12
...4	0C832		6338510115	CD pF 100 1000V K X7R T
...4	0C833		6312110145	ALU uF 100 100V T 105C 10x20
...4	0C834		6336410305	CD uF 0.01 500V M Z5U T
...4	0C837		6311347045	ALU uF 47 25V T 105C 5x11
...4	0C841		6311310145	ALU uF 100 25V T 105C 6.3x11
...4	0C843		6311347045	ALU uF 47 25V T 105C 5x11
...4	0C844		6338110485	CD uF 0.1 50V Z Y5V T
...4	0C845		6331910015	CD pF 10 50V K SL T
...4	0C846		6335110115	CD pF 100 50V K Y5P T
...4	0C848		6336510302	CD uF 0.01 1000V M Z5U F P=10
...4	0C849		6302110202	CD pF 1000 400V K F 7.5 Y MUR
...4	0C855		6336410305	CD uF 0.01 500V M Z5U T
...4	0D121		6412001704	DIODE 1N4148 T26 NS
...4	0D401		6412001704	DIODE 1N4148 T26 NS
...4	0D402		6412004337	DIODE UF1002M T52 1A/100V 50nS
...4	0D403		6412017810	DIODE BY329X-1500S PHILIPS
...4	0D404		6412001704	DIODE 1N4148 T26 NS
...4	0D405		6412011604	DIODE 1N4936 T26 1A/400V LITE
...4	0D406		6412011404	DIODE 1N4937 T26 1A/600V LITE

Level	CktId	Grp A	Item No.	Description
...4	0D407		6412020203	DIODE HER305 BXF 3A/400V FCI
...4	0D408		6412003614	DIODE UF1004M T26 1A/400V LITE
...4	0D409		6412011604	DIODE 1N4936 T26 1A/400V LITE
...4	0D410		6412001704	DIODE 1N4148 T26 NS
...4	0D411		6412001704	DIODE 1N4148 T26 NS
...4	0D412		6412001704	DIODE 1N4148 T26 NS
...4	0D414		6412001934	DIODE FUF4007AMP T26 1A/1KV
...4	0D415		6412001704	DIODE 1N4148 T26 NS
...4	0D416		6412008207	DIODE PR1002 T52 1A/100V 150nS
...4	0D417		6412003614	DIODE UF1004M T26 1A/400V LITE
...4	0D418		6412001704	DIODE 1N4148 T26 NS
...4	0D419		6412011604	DIODE 1N4936 T26 1A/400V LITE
...4	0D420		6412001704	DIODE 1N4148 T26 NS
...4	0D421		6412001704	DIODE 1N4148 T26 NS
...4	0D422		6412001704	DIODE 1N4148 T26 NS
...4	0D424		6412001704	DIODE 1N4148 T26 NS
...4	0D425		6412001704	DIODE 1N4148 T26 NS
...4	0D426		6412008207	DIODE PR1002 T52 1A/100V 150nS
...4	0D429		6412020203	DIODE HER305 BXF 3A/400V FCI
...4	0D430		6412001704	DIODE 1N4148 T26 NS
...4	0D431		6412011604	DIODE 1N4936 T26 1A/400V LITE
...4	0D432		6412001704	DIODE 1N4148 T26 NS
...4	0D433		6412003304	DIODE 1SS83TD 1A/300V T26
...4	0D434		6412001704	DIODE 1N4148 T26 NS
...4	0D437		6412003304	DIODE 1SS83TD 1A/300V T26
...4	0D438		6412001704	DIODE 1N4148 T26 NS
...4	0D440		6412001704	DIODE 1N4148 T26 NS
...4	0D501		6412001704	DIODE 1N4148 T26 NS
...4	0D502		6412001704	DIODE 1N4148 T26 NS
...4	0D503		6412001704	DIODE 1N4148 T26 NS
...4	0D504		6412001704	DIODE 1N4148 T26 NS
...4	0D505		6412001704	DIODE 1N4148 T26 NS
...4	0D506		6412001704	DIODE 1N4148 T26 NS
...4	0D701		6412001704	DIODE 1N4148 T26 NS
...4	0D702		6412011907	DIODE SB120 T52 1A/20V
...4	0D703		6412001704	DIODE 1N4148 T26 NS
...4	0D801	S1	6412011307	DIODE 1N5406 T52 3A/600V
...4	0D801	S0	6412011337	DIODE 1N5406T/A 3A/600V T52 TS
...4	0D802	S1	6412011307	DIODE 1N5406 T52 3A/600V
...4	0D802	S0	6412011337	DIODE 1N5406T/A 3A/600V T52 TS
...4	0D803	S1	6412011307	DIODE 1N5406 T52 3A/600V
...4	0D803	S0	6412011337	DIODE 1N5406T/A 3A/600V T52 TS
...4	0D804	S1	6412011307	DIODE 1N5406 T52 3A/600V
...4	0D804	S0	6412011337	DIODE 1N5406T/A 3A/600V T52 TS
...4	0D805		6412007927	DIODE FUF4006AMP T52 1A/800V
...4	0D806		6412003614	DIODE UF1004M T26 1A/400V LITE
...4	0D807		6412001704	DIODE 1N4148 T26 NS
...4	0D809		6412011604	DIODE 1N4936 T26 1A/400V LITE

Level	CktId	Grp A	Item No.	Description
...4	0D810		6412001704	DIODE 1N4148 T26 NS
...4	0D811		6412001704	DIODE 1N4148 T26 NS
...4	0D812		6412001704	DIODE 1N4148 T26 NS
...4	0D813		6412000520	DIODE RL4A 3A/600V 50nS SANKEN
...4	0D814	S1	6412017900	DIODE RL3 3.5A/350V SANKEN
...4	0D814	S0	6412019803	DIODE SF34S BXF 3A/200V FCI
...4	0D815		6412004117	DIODE UF2004M T52 2A/400V 50nS
...4	0D817		6412000520	DIODE RL4A 3A/600V 50nS SANKEN
...4	0D821		6412001704	DIODE 1N4148 T26 NS
...4	0D822		6412001704	DIODE 1N4148 T26 NS
...4	0D823		6412001704	DIODE 1N4148 T26 NS
...4	0D824		6412001704	DIODE 1N4148 T26 NS
...4	0D825		6412001704	DIODE 1N4148 T26 NS
...4	0D827		6412001704	DIODE 1N4148 T26 NS
...4	0D828		6412001704	DIODE 1N4148 T26 NS
...4	0D829		6412001704	DIODE 1N4148 T26 NS
...4	0D830		6412001704	DIODE 1N4148 T26 NS
...4	0F801	S1	6851504050	FUSE TIME LAG H-BRK 4A/250V
...4	0F801	S0	6851504051	FUSE TIME LAG H-BRK 19181-4A
...4	0GND1		6631010020	TEST PIN 1P 2.36MM
...4	0GND2		6631010020	TEST PIN 1P 2.36MM
...4	0GND3		6631010020	TEST PIN 1P 2.36MM
...4	0I301		6442012300	IC TDA4866 9P (PHILIPS)
...4	0I401		6442025200	IC TDA4856 32P SDIP (PHILIPS)
...4	0I402	S1	6442002800	IC TL494CN 16P (TI)
...4	0I402	S0	6442026500	IC KA7500B SAMSUNG
...4	0I501		6442021500	IC TDA4886 24P SDIP (PHILIPS)
...4	0I502		6444004110	IC MTV021-08 16P PDIP (MYSON)
...4	0I503		6442018105	IC KA78L08AZTA 3P TO-92 TAPING
...4	0I701		6448014500	IC NT68P61AU 42P SDIP OTP NOVA
...4	0I702		6448007430	IC 24LC211/P 8P EEPROM (MC)
...4	0I703		6448007930	IC KS24C04 8P PDIP SAMSUNG
...4	0I801	S1	6442006020	IC UC3842BN 8P PDIP (ST)
...4	0I801	S0	6442022000	IC KA3842AC 8P PDIP SAMSUNG
...4	0I802		6442014000	IC LTV-817D 4P PDIP (LITE ON)
...4	0I803		6442011610	IC SPQ01A 8P PDIP (SQ)
...4	0I804		6442000845	IC KA78L05AZTA 3P PDIP SAMSUNG
...4	0L301		6881001507	BEAD CORE W5 RH3.5x6x1.0T
...4	0L302		6881001507	BEAD CORE W5 RH3.5x6x1.0T
...4	0L402		6881001507	BEAD CORE W5 RH3.5x6x1.0T
...4	0L403		6111254130	COIL CHOKE 2.5mH K DRWW12x16C5
...4	0L404		6119005700	COIL LINEAR TLN-1057 10.77uH
...4	0L405		6119005900	COIL LINEAR TLN-1059 11.74uH
...4	0L406		6881001407	BEAD CORE C8B RH3.5x9x1.0T
...4	0L407		6881001507	BEAD CORE W5 RH3.5x6x1.0T
...4	0L408		6881001407	BEAD CORE C8B RH3.5x9x1.0T
...4	0L409		6115101104	COIL PEAKING 100 uH K T26
...4	0L410		6111275130	COIL CHOKE 270uH K DRWW10x16C5

Level	CktId	Grp A	Item No.	Description
...4	0L411		6111254130	COIL CHOKE 2.5mH K DRWW12x16C5
...4	0L412		6881001507	BEAD CORE W5 RH3.5x6x1.0T
...4	0L413		6881001507	BEAD CORE W5 RH3.5x6x1.0T
...4	0L414		6881001407	BEAD CORE C8B RH3.5x9x1.0T
...4	0L415		6881001407	BEAD CORE C8B RH3.5x9x1.0T
...4	0L501		6881001007	BEAD CORE K5B RH 3.5x3.5x0.8 T
...4	0L502		6881001007	BEAD CORE K5B RH 3.5x3.5x0.8 T
...4	0L503		6881001007	BEAD CORE K5B RH 3.5x3.5x0.8 T
...4	0L504		6115101104	COIL PEAKING 100 uH K T26
...4	0L505		6881006205	BEAD CORE W4B RH3.5x6x1(W)x2+T
...4	0L506		6115220104	COIL PEAKING 22uH K T26
...4	0L507		6881002730	CORE BEAD C8B R6H6x10(A)+W.75T
...4	0L508		6881001507	BEAD CORE W5 RH3.5x6x1.0T
...4	0L701		6881001507	BEAD CORE W5 RH3.5x6x1.0T
...4	0L702		6881001507	BEAD CORE W5 RH3.5x6x1.0T
...4	0L703		6881001507	BEAD CORE W5 RH3.5x6x1.0T
...4	0L704		6881001507	BEAD CORE W5 RH3.5x6x1.0T
...4	0L803		6881001407	BEAD CORE C8B RH3.5x9x1.0T
...4	0L805		6881001507	BEAD CORE W5 RH3.5x6x1.0T
...4	0L808		6881001507	BEAD CORE W5 RH3.5x6x1.0T
...4	0L809		6881001507	BEAD CORE W5 RH3.5x6x1.0T
...4	0L810		6881001507	BEAD CORE W5 RH3.5x6x1.0T
...4	0L811		6881001507	BEAD CORE W5 RH3.5x6x1.0T
...4	0L812		6881001507	BEAD CORE W5 RH3.5x6x1.0T
...4	0L814		6881002730	CORE BEAD C8B R6H6x10(A)+W.75T
...4	0L815		6881002730	CORE BEAD C8B R6H6x10(A)+W.75T
...4	0P121		6611020021	PLUG 2P 2.5 JWT-A2501WV2-2P
...4	0P301		6611040062	PLUG 4P 10/8/8SLIDE NICKLE AMP
...4	0P401		6611020090	PLUG 2P 2.54mm PHSS-2P
...4	0P501		6611130010	PLUG 13P 2.5 JWT-A2501WV2-13P
...4	0P802		6614020030	WAFER 2P 8-10mm 1086P020001
...4	0Q121		6421001405	TR NPN KSC2328A-Y-TA (SAMSUNG)
...4	0Q122		6424000905	TR PNP KSA928A-Y-TA (SAMSUNG)
...4	0Q123		6421000515	TR NPN KSC945C-G-TA (SAMSUNG)
...4	0Q401		6421002705	TR NPN KSD1616A-G-TA (SAMSUNG)
...4	0Q402		6421004410	TR NPN 2SC5386 (Hfe:5-7 1550V)
...4	0Q403		6423000115	TR PNP KSA733C-Y-TA frmKSA1015
...4	0Q404		6423000115	TR PNP KSA733C-Y-TA frmKSA1015
...4	0Q405		6426006300	FET N-CHNL IRFS634A SAMSUNG
...4	0Q406		6421001405	TR NPN KSC2328A-Y-TA (SAMSUNG)
...4	0Q407		6421000515	TR NPN KSC945C-G-TA (SAMSUNG)
...4	0Q410		6421000515	TR NPN KSC945C-G-TA (SAMSUNG)
...4	0Q411		6426009400	FET N-CHNL IRFS830A FAIRCHILD
...4	0Q412		6421000515	TR NPN KSC945C-G-TA (SAMSUNG)
...4	0Q413	S1	6426006400	FET N-CHNL IRFS630A SAMSUNG
...4	0Q413	S0	6426009100	FET N-CHNL IRF630A FAIRCHILD
...4	0Q414		6421004500	TR NPN KSC5042F TO220F SAMSUNG
...4	0Q415		6421004500	TR NPN KSC5042F TO220F SAMSUNG



Level	CktId	Grp A	Item No.	Description
...4	0Q416		6423000115	TR PNP KSA733C-Y-TA frmKSA1015
...4	0Q418		6421000515	TR NPN KSC945C-G-TA (SAMSUNG)
...4	0Q419		6423000115	TR PNP KSA733C-Y-TA frmKSA1015
...4	0Q420		6424002215	TR PNP HBF423T/B TO-92 TAPING
...4	0Q421		6422002925	TR NPN HBF422T/B TO-92 TAPING
...4	0Q422		6423000115	TR PNP KSA733C-Y-TA frmKSA1015
...4	0Q423		6421000515	TR NPN KSC945C-G-TA (SAMSUNG)
...4	0Q424		6423000115	TR PNP KSA733C-Y-TA frmKSA1015
...4	0Q425		6421000515	TR NPN KSC945C-G-TA (SAMSUNG)
...4	0Q426		6421000515	TR NPN KSC945C-G-TA (SAMSUNG)
...4	0Q428		6421000515	TR NPN KSC945C-G-TA (SAMSUNG)
...4	0Q429		6421000515	TR NPN KSC945C-G-TA (SAMSUNG)
...4	0Q430		6423000115	TR PNP KSA733C-Y-TA frmKSA1015
...4	0Q431		6422002925	TR NPN HBF422T/B TO-92 TAPING
...4	0Q432		6424002215	TR PNP HBF423T/B TO-92 TAPING
...4	0Q433		6421000515	TR NPN KSC945C-G-TA (SAMSUNG)
...4	0Q705		6421000515	TR NPN KSC945C-G-TA (SAMSUNG)
...4	0Q801		6421000515	TR NPN KSC945C-G-TA (SAMSUNG)
...4	0Q802		6421000515	TR NPN KSC945C-G-TA (SAMSUNG)
...4	0Q803	S0	6426006700	FET N-CHNL SSS7N60A (SAMSUNG)
...4	0Q803	S1	6426004600	FET N-CHNL 2SK2645-01MR FUJI
...4	0Q804		6423000115	TR PNP KSA733C-Y-TA frmKSA1015
...4	0Q805		6421000515	TR NPN KSC945C-G-TA (SAMSUNG)
...4	0Q807		6423000115	TR PNP KSA733C-Y-TA frmKSA1015
...4	0Q809		6421000515	TR NPN KSC945C-G-TA (SAMSUNG)
...4	0Q813		6424003300	TR PNP KSB772-Y (SAMSUNG)
...4	0Q814		6421000515	TR NPN KSC945C-G-TA (SAMSUNG)
...4	0Q825		6423000115	TR PNP KSA733C-Y-TA frmKSA1015
...4	0R101		6212110954	CF OHM 1 1/4W J T26 MINI
...4	0R102		6212110954	CF OHM 1 1/4W J T26 MINI
...4	0R121		6212139254	CF KOHM 3.9 1/4W J T26 MINI
...4	0R122		6212175054	CF OHM 75 1/4W J T26 MINI
...4	0R123		6212191154	CF OHM 910 1/4W J T26 MINI
...4	0R301		6212120254	CF KOHM 2 1/4W J T26 MINI
...4	0R302		6212112254	CF KOHM 1.2 1/4W J T26 MINI
...4	0R303		6221247852	MOF OHM 0.47 2W J HOR
...4	0R304		6221139152	MOF OHM 390 1W J HOR
...4	0R305		6212312157	CF , OHM,120 ,1/2W,J,AT52
...4	0R306		6224122114	MF KOHM 2.21 1/8W F T26
...4	0R307		6212301057	CF , OHM, 1 ,1/2W,J,AT52
...4	0R308		6212143254	CF KOHM 4.3 1/4W J T26 MINI
...4	0R309		6212168254	CF KOHM 6.8 1/4W J T26 MINI
...4	0R310		6212122054	CF OHM 22 1/4W J T26 MINI
...4	0R4A0		6212110254	CF KOHM 1 1/4W J T26 MINI
...4	0R4A1		6221215952	MOF OHM 1.5 2W J HOR
...4	0R4A2		6212110254	CF KOHM 1 1/4W J T26 MINI
...4	0R4A3		6212110054	CF OHM 10 1/4W J T26 MINI
...4	0R4A4		6212110354	CF KOHM 10 1/4W J T26 MINI

Level	CktId	Grp A	Item No.	Description
...4	0R4A6		6221218952	MOF OHM 1.8 2W J HOR
...4	0R4A7		6212110354	CF KOHM 10 1/4W J T26 MINI
...4	0R4A8		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R4A9		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R4C1		6212356357	CF ,KOHM, 56 ,1/2W,J,AT52
...4	0R4C2		6212239254	CF KOHM 3.9 1/4W J T26
...4	0R4C3		6221112352	MOF KOHM 12 1W J HOR
...4	0R4C4		6212218254	CF KOHM 1.8 1/4W J T26
...4	0R4E0		6212120354	CF KOHM 20 1/4W J T26 MINI
...4	0R4E2		6212156354	CF KOHM 56 1/4W J T26 MINI
...4	0R4E3		6224182014	MF KOHM 8.2 1/8W F T26
...4	0R4E4		6212110254	CF KOHM 1 1/4W J T26 MINI
...4	0R4E5		6212156354	CF KOHM 56 1/4W J T26 MINI
...4	0R4E6		6212110354	CF KOHM 10 1/4W J T26 MINI
...4	0R4E7		6212110354	CF KOHM 10 1/4W J T26 MINI
...4	0R4E9		6212133154	CF OHM 330 1/4W J T26 MINI
...4	0R401		6221133152	MOF OHM 330 1W J HOR
...4	0R402		6212147154	CF OHM 470 1/4W J T26 MINI
...4	0R403		6221215952	MOF OHM 1.5 2W J HOR
...4	0R404		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R405		6212322057	CF , OHM, 22 ,1/2W,J,AT52
...4	0R406		6212136454	CF KOHM 360 1/4W J T26 MINI
...4	0R407		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R408		6212139454	CF KOHM 390 1/4W J T26 MINI
...4	0R409		6224143224	MF KOHM 43.2 1/8W F T26
...4	0R410		6224131624	MF KOHM 31.6 1/8W F T26
...4	0R411		6212115054	CF OHM 15 1/4W J T26 MINI
...4	0R412		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R413		6212120354	CF KOHM 20 1/4W J T26 MINI
...4	0R414		6221233852	MOF OHM 0.33 2W J HOR
...4	0R415		6221333252	MOF KOHM 3.3 3W J HOR
...4	0R416		6228182557	MGF MOHM 8.2 1/4W J AT52
...4	0R417		6232122153	CEM OHM 220 5W J VERT
...4	0R418		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R419		6212110354	CF KOHM 10 1/4W J T26 MINI
...4	0R421		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R423		6212168354	CF KOHM 68 1/4W J T26 MINI
...4	0R424		6212133254	CF KOHM 3.3 1/4W J T26 MINI
...4	0R425		6212130254	CF KOHM 3 1/4W J T26 MINI
...4	0R426		6212110254	CF KOHM 1 1/4W J T26 MINI
...4	0R427		6212151154	CF OHM 510 1/4W J T26 MINI
...4	0R428		6221222152	MOF OHM 220 2W J HOR
...4	0R429		6212147354	CF KOHM 47 1/4W J T26 MINI
...4	0R430		6212151254	CF KOHM 5.1 1/4W J T26 MINI
...4	0R431		6212139454	CF KOHM 390 1/4W J T26 MINI
...4	0R432		6212120354	CF KOHM 20 1/4W J T26 MINI
...4	0R433		6212151254	CF KOHM 5.1 1/4W J T26 MINI
...4	0R434		6212110354	CF KOHM 10 1/4W J T26 MINI

Level	CktId	Grp A	Item No.	Description
...4	0R435		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R436		6221133152	MOF OHM 330 1W J HOR
...4	0R437		6212147054	CF OHM 47 1/4W J T26 MINI
...4	0R438		6212147354	CF KOHM 47 1/4W J T26 MINI
...4	0R439		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R440		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R441		6228182557	MGF MOHM 8.2 1/4W J AT52
...4	0R442		6221310452	MOF KOHM 100 3W J HOR
...4	0R443		6221310452	MOF KOHM 100 3W J HOR
...4	0R444		6224290924	MF KOHM 90.9 1/4W F T26
...4	0R445		6224290924	MF KOHM 90.9 1/4W F T26
...4	0R446		6224290924	MF KOHM 90.9 1/4W F T26
...4	0R447		6212122254	CF KOHM 2.2 1/4W J T26 MINI
...4	0R448		6212147354	CF KOHM 47 1/4W J T26 MINI
...4	0R449		6212168254	CF KOHM 6.8 1/4W J T26 MINI
...4	0R450		6224113014	MF KOHM 1.30 1/8W F T26
...4	0R451		6224161914	MF KOHM 6.19 1/8W F T26
...4	0R453		6212182354	CF KOHM 82 1/4W J T26 MINI
...4	0R454		6221210152	MOF OHM 100 2W J HOR
...4	0R455		6221110452	MOF KOHM 100 1W J HOR
...4	0R456		6212110254	CF KOHM 1 1/4W J T26 MINI
...4	0R457		6212127254	CF KOHM 2.7 1/4W J T26 MINI
...4	0R458		6224115014	MF KOHM 1.50 1/8W F T26
...4	0R459		6212130254	CF KOHM 3 1/4W J T26 MINI
...4	0R460		6212110254	CF KOHM 1 1/4W J T26 MINI
...4	0R461		6212110354	CF KOHM 10 1/4W J T26 MINI
...4	0R462		6221239252	MOF KOHM 3.9 2W J HOR
...4	0R463		6212156254	CF KOHM 5.6 1/4W J T26 MINI
...4	0R464		6212133254	CF KOHM 3.3 1/4W J T26 MINI
...4	0R465		6212110354	CF KOHM 10 1/4W J T26 MINI
...4	0R466		6212215254	CF KOHM 1.5 1/4W J T26
...4	0R467		6224127014	MF KOHM 2.7 1/8W F T26
...4	0R468		6224111314	MF KOHM 1.13 1/8W F T26
...4	0R469		6212151254	CF KOHM 5.1 1/4W J T26 MINI
...4	0R470		6224122124	MF KOHM 22.1 1/8W F T26
...4	0R471		6224128714	MF KOHM 2.87 1/8W F T26
...4	0R473		6212110154	CF OHM 100 1/4W J T26 MINI
...4	0R474		6212110154	CF OHM 100 1/4W J T26 MINI
...4	0R475		6212168254	CF KOHM 6.8 1/4W J T26 MINI
...4	0R476		6224211024	MF KOHM 11 1/4W F T26
...4	0R477		6224213024	MF KOHM 13 1/4W F T26
...4	0R478		6224230114	MF KOHM 3.01 1/4W F T26
...4	0R479		6212110254	CF KOHM 1 1/4W J T26 MINI
...4	0R480		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R481		6212110354	CF KOHM 10 1/4W J T26 MINI
...4	0R482		6212156554	CF MOHM 5.6 1/4W J T26 MINI
...4	0R483		6228182557	MGF MOHM 8.2 1/4W J AT52
...4	0R485		6212162454	CF KOHM 620 1/4W J T26 MINI

Level	CktId	Grp A	Item No.	Description
...4	0R486		6212124354	CF KOHM 24 1/4W J T26 MINI
...4	0R487		6212151254	CF KOHM 5.1 1/4W J T26 MINI
...4	0R488		6212110354	CF KOHM 10 1/4W J T26 MINI
...4	0R489		6212110454	CF KOHM 100 1/4W J T26 MINI
...4	0R490		6212124354	CF KOHM 24 1/4W J T26 MINI
...4	0R491		6212110154	CF OHM 100 1/4W J T26 MINI
...4	0R492		6212110154	CF OHM 100 1/4W J T26 MINI
...4	0R493		6212110154	CF OHM 100 1/4W J T26 MINI
...4	0R494		6212110154	CF OHM 100 1/4W J T26 MINI
...4	0R497		6212151154	CF OHM 510 1/4W J T26 MINI
...4	0R498		6212310257	CF ,KOHM, 1.00,1/2W,J,AT52
...4	0R499		6212122054	CF OHM 22 1/4W J T26 MINI
...4	0R501		6224175094	MF OHM 75.0 1/8W F T26
...4	0R502		6224175094	MF OHM 75.0 1/8W F T26
...4	0R503		6224175094	MF OHM 75.0 1/8W F T26
...4	0R504		6212110154	CF OHM 100 1/4W J T26 MINI
...4	0R505		6212133054	CF OHM 33 1/4W J T26 MINI
...4	0R506		6212133054	CF OHM 33 1/4W J T26 MINI
...4	0R507		6212118354	CF KOHM 18 1/4W J T26 MINI
...4	0R509		6212115154	CF OHM 150 1/4W J T26 MINI
...4	0R510		6212139354	CF KOHM 39 1/4W J T26 MINI
...4	0R511		6212147154	CF OHM 470 1/4W J T26 MINI
...4	0R512		6221168052	MOF OHM 68 1W J HOR
...4	0R513		6212147154	CF OHM 470 1/4W J T26 MINI
...4	0R514		6212156254	CF KOHM 5.6 1/4W J T26 MINI
...4	0R515		6212182254	CF KOHM 8.2 1/4W J T26 MINI
...4	0R516		6212156254	CF KOHM 5.6 1/4W J T26 MINI
...4	0R517		6212147454	CF KOHM 470 1/4W J T26 MINI
...4	0R518		6212162054	CF OHM 62 1/4W J T26 MINI
...4	0R519		6212162054	CF OHM 62 1/4W J T26 MINI
...4	0R520		6212110354	CF KOHM 10 1/4W J T26 MINI
...4	0R521		6212110154	CF OHM 100 1/4W J T26 MINI
...4	0R522		6212139154	CF OHM 390 1/4W J T26 MINI
...4	0R523		6212139154	CF OHM 390 1/4W J T26 MINI
...4	0R524		6212139154	CF OHM 390 1/4W J T26 MINI
...4	0R525		6224175094	MF OHM 75.0 1/8W F T26
...4	0R526		6224175094	MF OHM 75.0 1/8W F T26
...4	0R527		6224175094	MF OHM 75.0 1/8W F T26
...4	0R530		6212115154	CF OHM 150 1/4W J T26 MINI
...4	0R531		6212115154	CF OHM 150 1/4W J T26 MINI
...4	0R532		6212115154	CF OHM 150 1/4W J T26 MINI
...4	0R535		6221156052	MOF OHM 56 1W J HOR
...4	0R701		6212110454	CF KOHM 100 1/4W J T26 MINI
...4	0R702		6212110454	CF KOHM 100 1/4W J T26 MINI
...4	0R703		6212110254	CF KOHM 1 1/4W J T26 MINI
...4	0R704		6212110254	CF KOHM 1 1/4W J T26 MINI
...4	0R709		6224110094	MF OHM 10 1/8W F T26
...4	0R710		6224168114	MF KOHM 6.81 1/8W F T26

Level	CktId	Grp A	Item No.	Description
...4	0R711		6224130124	MF KOHM 30.1 1/8W F T26
...4	0R715		6212147154	CF OHM 470 1/4W J T26 MINI
...4	0R720		6212118354	CF KOHM 18 1/4W J T26 MINI
...4	0R722		6212112254	CF KOHM 1.2 1/4W J T26 MINI
...4	0R723		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R724		6212122254	CF KOHM 2.2 1/4W J T26 MINI
...4	0R728		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R729		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R730		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R731		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R732		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R733		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R734		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R735		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R739		6212110354	CF KOHM 10 1/4W J T26 MINI
...4	0R740		6224168114	MF KOHM 6.81 1/8W F T26
...4	0R741		6224168114	MF KOHM 6.81 1/8W F T26
...4	0R742		6224130124	MF KOHM 30.1 1/8W F T26
...4	0R743		6224168114	MF KOHM 6.81 1/8W F T26
...4	0R744		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R748		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R749		6212110154	CF OHM 100 1/4W J T26 MINI
...4	0R757		6212133054	CF OHM 33 1/4W J T26 MINI
...4	0R758		6212133054	CF OHM 33 1/4W J T26 MINI
...4	0R759		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R760		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R761		6212133054	CF OHM 33 1/4W J T26 MINI
...4	0R762		6212133054	CF OHM 33 1/4W J T26 MINI
...4	0R763		6212133054	CF OHM 33 1/4W J T26 MINI
...4	0R764		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R765		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R766		6212133054	CF OHM 33 1/4W J T26 MINI
...4	0R801		6212347457	CF ,KOHM,470 ,1/2W,J,AT52
...4	0R802		6224120024	MF KOHM 20 1/8W F T26
...4	0R803		6203080017	POSISTOR 8 OHM DGC2R08M
...4	0R804		6201100012	THERMISTOR 10 OHM 3A P=5.0 TKS
...4	0R805		6228112557	MGF MOHM 1.2 1/4W J AT52
...4	0R808		6212147154	CF OHM 470 1/4W J T26 MINI
...4	0R809		6212247954	CF OHM 4.7 1/4W J T26
...4	0R810		6232127353	CEM KOHM 27 5W J VERT
...4	0R811		6212115154	CF OHM 150 1/4W J T26 MINI
...4	0R812		6212120354	CF KOHM 20 1/4W J T26 MINI
...4	0R813		6221218852	MOF OHM 0.18 2W J HOR
...4	0R814		6212210254	CF KOHM 1 1/4W J T26
...4	0R815		6212156354	CF KOHM 56 1/4W J T26 MINI
...4	0R816		6212147054	CF OHM 47 1/4W J T26 MINI
...4	0R817		6212120354	CF KOHM 20 1/4W J T26 MINI
...4	0R818		6221127852	MOF OHM 0.27 1W J HOR

Level	CktId	Grp A	Item No.	Description
...4	0R819		6212110454	CF KOHM 100 1/4W J T26 MINI
...4	0R820		6212151254	CF KOHM 5.1 1/4W J T26 MINI
...4	0R821		6212147154	CF OHM 470 1/4W J T26 MINI
...4	0R822		6232122253	CEM KOHM 2.2 5W J VERT
...4	0R823		6224124014	MF KOHM 2.4 1/8W F T26
...4	0R824		6212156354	CF KOHM 56 1/4W J T26 MINI
...4	0R825		6212110254	CF KOHM 1 1/4W J T26 MINI
...4	0R826		6212120154	CF OHM 200 1/4W J T26 MINI
...4	0R827		6212110254	CF KOHM 1 1/4W J T26 MINI
...4	0R828		6212110254	CF KOHM 1 1/4W J T26 MINI
...4	0R830		6221247352	MOF KOHM 47 2W J HOR
...4	0R831		6221247352	MOF KOHM 47 2W J HOR
...4	0R832		6212120154	CF OHM 200 1/4W J T26 MINI
...4	0R835		6212122154	CF OHM 220 1/4W J T26 MINI
...4	0R836		6221133152	MOF OHM 330 1W J HOR
...4	0R837		6212122254	CF KOHM 2.2 1/4W J T26 MINI
...4	0R840		6221227052	MOF OHM 27 2W J HOR
...4	0R842		6221130152	MOF OHM 300 1W J HOR
...4	0R845		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R846		6212147254	CF KOHM 4.7 1/4W J T26 MINI
...4	0R847		6212333457	CF ,KOHM,330 ,1/2W,J,AT52
...4	0R848		6212333457	CF ,KOHM,330 ,1/2W,J,AT52
...4	0R849		6212151354	CF KOHM 51 1/4W J T26 MINI
...4	0R850		6212115454	CF KOHM 150 1/4W J T26 MINI
...4	0R851		6212120154	CF OHM 200 1/4W J T26 MINI
...4	0R853		6212191154	CF OHM 910 1/4W J T26 MINI
...4	0R857		6212122954	CF OHM 2.2 1/4W J T26 MINI
...4	0R858		6212110254	CF KOHM 1 1/4W J T26 MINI
...4	0R859		6221115952	MOF OHM 1.5 1W J HOR
...4	0R860		6221118952	MOF OHM 1.8 1W J HOR
...4	0R861		6212127054	CF OHM 27 1/4W J T26 MINI
...4	0R862		6212110254	CF KOHM 1 1/4W J T26 MINI
...4	0R864		6212182454	CF KOHM 820 1/4W J T26 MINI
...4	0R865		6212182454	CF KOHM 820 1/4W J T26 MINI
...4	0R866		6212182354	CF KOHM 82 1/4W J T26 MINI
...4	0R867		6212110354	CF KOHM 10 1/4W J T26 MINI
...4	0R868		6212156354	CF KOHM 56 1/4W J T26 MINI
...4	0R874		6212110354	CF KOHM 10 1/4W J T26 MINI
...4	0S701		6853004110	SW TACT CG4100STEM COLOR toRED
...4	0S702		6853004110	SW TACT CG4100STEM COLOR toRED
...4	0S703		6853004110	SW TACT CG4100STEM COLOR toRED
...4	0S704		6853004110	SW TACT CG4100STEM COLOR toRED
...4	0S705		6853000801	SW SLIDE 2P2T SSSF022NA1-UE
...4	0S801		6853007500	SW PUSH SDKLA10200 ALPS TV-5
...4	0TCO1		6631010020	TEST PIN 1P 2.36MM
...4	0T401		6135000801	XFRMR HOR DRIVE THD-1008A EI19
...4	0T402	S0	6133070100	FBT TFB-7010 CF1380A LIENCHANG
...4	0T402	S1	6133070120	FBT TFB-7012 FEA867A SAMPO

Level	CktId	Grp A	Item No.	Description
...4	0T403		6111155174	COIL CHOKE 150uH K DR4W14x15P3
...4	0T801		6138001601	LINE FILTER TLF-1016A 16mHET28
...4	0T802	S1	6131060810	XFRMER PWR TPW-1070 EI40 AXIS
...4	0T802	S0	6131060820	XFRMER PWR TPW-1070 EI40 LSE
...4	0X701		6449000719	CRYSTAL 8MHz TOP8.0 CG710PIN=4
...4	0Z801		6852501137	SPARK GAP DSP-501N-A21F T52
...4	00BUR		6631010020	TEST PIN 1P 2.36MM
...4	000G2		6714010570-00	HRNS 1P 390 1032#22BLACK1.8Dx2
...4	9N081		6875000100	HOT MELT ADHESIVE 1101-UL 94V0
...3	05C01		7748704600-0B	CABLET BRACKET (BRIDGE)
...3	05C02		7746202410-0A	SHIELD COVER (B1570&B1770)
...3	05C03		7742605400-0B	POWER BAR 14" 15"
...3	5C01N		7130330081	TRIANGLE SCREW M3X8
...3	5C01P		7131430081	SCREW+WASHER M3*8
...3	5C01Q		7131440081	SCREW+WASHER M4*8
...3	5C01R		7742403910	NAME PLATE (BRIDGE)
...3	5C01S		7740100101	CABLE TIES
1	0		5192405444	PACKING VSCB1770NST(99)~E3(C)
0.2	P801A		6716004810	PWR CRD 1830+-30NORMALLONGWELL
0.2	0Y001		7730111950	VSC B1770NSL E771-4E MANUAL
0.2	0Y002		7730201240	CD-Rom for viewsonic model
0.2	01P11		7749204711-0A	CARTON VSCB1771NST(E771-4)(C)
0.2	01P21		7749102020-0C	VSC 17" (EPS)(R)
0.2	01P22		7749102021-0C	VSC 17" (EPS)(L)
0.2	01P31		7749000380-0F	PE BAG 17"/SP1465MC
0.2	01P51		1240000402	TAPE,EARTH-713C (914M/RS)
0.2	01P71		1240000252	FILM STRETCH WRAP
0.2	01P81		1240000234	SINGLE-DECKED PALLET
0.2	01P91		1240000627-0A	BOARD CORRUGATED PAPER
0.2	02B01		7735421350-0B	MODEL LABEL VIEWSONIC B1770NST
0.2	02P01		7735416670	PACKING LABEL FOR VIEWSONIC
0.2	02P03		1190000301	Pallet Sheet 9.5x11x2P

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